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1961-1962

Undergraduate Catalog

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The Record Comprises:

The Graduate Bulletin, the Undergraduate Catalog, the Bulletin of the Summer Session, the Schedule of Courses for each semester, and various bulletins on regulations and policies.

These bulletins will be sent gratuitously to all persons who apply for them. The applicant should specifically state which bulletins or what information is desired. Address

THE REGISTRAR
University of Florida
Gainesville, Florida

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UNIVERSITY CALENDAR

1961-62

REGULAR SESSION SEPTEMBER 1961-JUNE 1962

1961

August 1, Tuesday	Last day for those not previously in attendance at the University of Florida to file application for admission for the first semester.
September 18, 19, Monday, Tuesday	Placement tests for entering students.
September 18-23, Monday-Saturday	Orientation and registration according to appointments assigned on receipt of preliminary application. No one permitted to start registration on Saturday, September 23, after 10 a.m.
September 25, Monday, 7:40 a.m.	Classes begin. All registration fees increased $5.00 for persons completing registration on or after this date.
September 28, Thursday, 10:40 a.m.	Scholarship Convocation.
September 30, Saturday, 12 Noon	Last time for completing registration for first semester. No one permitted to start registration after 10 a.m. on this date. Last time for adding courses and for changing sections.
October 6, Friday	Last day for applying to take the foreign language examination for graduates students to be administered on October 14, 1961.
October 14, Saturday	Foreign language examination for graduate students, 18 Anderson Hall, 10-12 a.m.
October 27, 28, Friday, Saturday	Homecoming. Classes suspended at 12:30 p.m. Friday.
October 30, Monday, 12 Noon	Last time for making application at the Office of the Registrar for degree to be conferred at end of first semester.
November 6, Monday, 4 p.m.	Last time for dropping courses without receiving grade of E.
November 11, Saturday	Georgia-Florida football game in Jacksonville. Classes suspended.
November 22, Wednesday, 6:30 p.m.	Thanksgiving recess begins.
November 27, Monday, 7:40 a.m.	Thanksgiving recess ends.
November 27, Monday, 5 p.m.	Last time for removing grades of I or X received in preceding semester or term of attendance.
December 15, Friday	Last day for applying to take foreign language examination for graduate students to be administered on January 13, 1962.
December 20, Wednesday, 6:30 p.m.	Christmas recess begins.
December 29, Friday, 5:00 p.m.	Last day for those not previously in attendance at the University of Florida to file application for admission for the second semester.

1962

January 3, Wednesday, 7:40 a.m.	Christmas recess ends.
January 12, Friday	Last day for candidates for degrees to be conferred at end of first semester to complete correspondence courses.
January 13, Saturday	Foreign language examination for graduate students, 18 Anderson Hall, 10-12 a.m.

January 15, Monday, 4 p.m. ..... Last time for candidates for Master's and Doctor's degrees to be conferred at end of first semester to file theses with Dean of the Graduate School.

January 20, Saturday, 7:30 p.m. ..... Final examination period begins.

February 1, Thursday, 4 p.m. ..... Grades for all candidates for degrees to be conferred at end of first semester due in the Office of the Registrar (special lists are sent to the faculty for this report).

February 2, Friday ..... Faculty meetings, at times announced by the Deans, to pass upon candidates for degrees.

February 3, Saturday, 12 Noon ..... All grades for first semester due in the Office of the Registrar.

February 3, Saturday, 8 p.m. ..... First semester Commencement Convocation.

SECOND SEMESTER

February 7, Wednesday ..... Placement tests for entering students.

February 9, 10, Friday, Saturday ..... Registration according to appointments assigned on receipt of preliminary application. No one permitted to start registration on Saturday, February 10, after 10 a.m.

February 12, Monday, 7:40 a.m. ..... Classes begin. All registration fees increased $5.00 for persons completing registration on or after this date.

February 17, Saturday, 12 Noon ..... Last time for completing registration for the second semester. No one permitted to start registration after 10 a.m. on this date. Last time for adding courses and for changing sections.

March 19, Monday, 12 Noon ..... Last time for making application at the Office of the Registrar for a degree to be conferred at the end of the second semester.

March 26, Monday, 4 p.m. ..... Last time for dropping courses without receiving a grade of E.

April 13, Friday, 5:00 p.m. ..... Last time for removing grades of I or X received in preceding semester or term of attendance.

April 19, Thursday, 6:30 p.m. ..... Spring recess begins.

April 20, Friday ..... Last day for applying to take the foreign language examination for graduate students to be administered on April 28.

April 24, Tuesday, 7:40 a.m. ..... Spring recess ends.

April 28, Saturday ..... Foreign language examination for graduate students, 18 Anderson Hall, 10-12 a.m.

May 18, Friday ..... Last day for candidates for degrees to be conferred at the end of the second semester to complete correspondence courses.

May 21, Monday, 4 p.m. ..... Last time for candidates for Master's and Doctor's degrees to be conferred at the end of the second semester to file theses with the Dean of the Graduate School.

May 26, Saturday, 7:30 p.m. ..... Final examination period begins.

June 7, Thursday, 4 p.m. ..... Grades for all candidates for degrees to be conferred at the end of the second semester due in the Office of the Registrar (special lists are sent to the faculty for this report).

June 8, Friday ..... Faculty meetings, at time announced by the Deans, to pass upon candidates for degrees.

June 9, Saturday, 12 Noon.....All grades for second semester due in the Office of the Registrar.

June 10, Sunday .....Baccalaureate Service.

June 11, Monday .....Commencement Convocation.

SUMMER SESSION 1962

June 14, Thursday .....Placement Tests for entering students.

June 15, 16, 18, Friday, Saturday, Monday .....Registration according to appointments assigned on receipt of preliminary application.

June 19, Tuesday, 7 a.m.....Classes begin. All registration fees increased $5.00 for persons completing registration on or after this date.

June 20, Wednesday, 5 p.m.....Last time for completing registration for the summer session. No one will be permitted to start registration after 3 p.m. on this date. Last time for adding courses or changing sections.

June 23, Saturday, 12 Noon.....Last time for making application at the Office of the Registrar for degree to be conferred at the end of the summer session.

July 4, Wednesday .....Holiday. Classes suspended.

July 6, Friday .....Last day for applying to take the foreign language examination for graduate students to be administered on July 14, 1962.

July 9, Monday, 5 p.m. .....Last time for dropping courses without receiving a grade of E.

July 14, Saturday .....Foreign language examination for graduate students, 18 Anderson Hall, 10-12 a.m.

July 20, Friday .....Last day for candidates for degrees to be conferred at end of the summer session to complete correspondence courses.

July 23, Monday, 4 p.m.....Last time for candidates for Master's and Doctor's degrees to be conferred at the end of the summer session to file theses with the Dean of the Graduate School.

August 7, Tuesday, 7 a.m.....Final examination period begins. Fall semester registration begins for students enrolled in the summer session.

August 9, Thursday, 4 p.m.....Grades for all candidates for degrees to be conferred at the end of the summer session are due in the Office of the Registrar.

August 10, Friday .....Faculty meetings, at times announced by the Deans, to pass upon candidates for degrees.

August 11, Saturday, 12 Noon.....All grades for the summer session due in the Office of the Registrar.

August 11, Saturday, 8 p.m.....Summer Commencement Convocation.

1962-1963

September 17-22 .....Opening week.

February 2 .....End of first semester.

February 6 .....Start of second semester.

June 8 .....End of second semester.

June 10 .....Commencement.

June 13 .....Start of 1963 summer session.

August 10 .....Summer Session Commencement.

Florida State Board of Education

C. Farris Bryant ..... Governor

Tom Adams ..... Secretary of State

J. Edwin Larson ..... State Treasurer

Richard Ervin ..... Attorney General

Thomas D. Bailey, *Secretary* ..... State Superintendent of Public Instruction

Board of Control of Florida

J. J. Daniel, *Chairman* ..... Attorney at Law
Jacksonville, Florida

Frank M. Buchanan ..... Businessman
Miami, Florida

James D. Camp ..... Banker
Fort Lauderdale, Florida

S. Kendrick Guernsey ..... Businessman
Jacksonville, Florida

Joe K. Hays ..... Citrus Grower and Banker
Winter Haven, Florida

James J. Love ..... Agriculturist
Quincy, Florida

Ralph L. Miller ..... Citrus Grower
Orlando, Florida

J. Broward Culpepper ..... Executive Director
Tallahassee, Florida

Academic and Administrative Councils of The University

J. Wayne Reitz, Ph.D., LL.D., D.SC. . . . . President of the University
Frank Thompson Adams, Ed.D. . . . . Dean of Men
Turpin Chambers Bannister, F.A.I.A., Ph.D., D.F.A. . . . . Dean of the College of Architecture and Fine Arts
Joseph Riley Beckenbach, Ph.D. . . . . Director of the Agricultural Experiment Station
Marna Venable Brady, Ed.D. . . . . Dean of Women
Marvin Adel Brooker, Ph.D. . . . . Dean of the College of Agriculture
Joshua Clifton Dickinson, Jr., Ph.D. . . . . Acting Director of the Florida State Museum
Glenn Aloysius Farris, B.S., Colonel, Infantry . . . . . Professor of Military Science and Tactics and Coordinator of Military Departments
Willard Merwin Fifield, M.S. . . . . Provost for Agriculture
Perry Albert Foote, Ph.D. . . . . Dean of the College of Pharmacy and Director of the Bureau of Professional Relations
Samuel Ray Graves, B.A. . . . . Athletic Director and Head Football Coach
Linton E. Grinter, Ph.D. . . . . Dean of the Graduate School and Director of Research
Lewis Francis Haines, Ph.D. . . . . Director of the University Press
Lester Leonard Hale, Ph.D. . . . . Dean of Student Affairs
George Thomas Harrell, M.D. . . . . Dean of the College of Medicine
Donald John Hart, Ph.D. . . . . Dean of the College of Business Administration
Leland Wilbur Hiatt . . . . . Director of Alumni Affairs
Richard Sadler Johnson, B.S.P. . . . . Registrar
William Ellis Jones, B.S.B.A. . . . . Business Manager
Clemens Marcus Kaufman, Ph.D. . . . . Director of the School of Forestry
Winston Woodard Little, M.A. . . . . Dean of the University College
Frank Edward Maloney, LL.B. . . . . Dean of the College of Law
Darrel Jay Mase, Ph.D. . . . . Dean of the College of Health Related Services
Robert Babreau Mautz, LL.B. . . . . Dean of Academic Affairs
Ralph Emerson Page, Ph.D. . . . . Dean of the College of Arts and Sciences
Harry Melvin Philpott, Ph.D. . . . . Vice-President of the University
Russell Spurgeon Poor, Ph.D. . . . . Provost for the Health Center
Bert Clair Riley, B.S.A., LL.D. . . . . Dean of the General Extension Division
Dorothy Mary Smith, M.Ed. . . . . Dean of the College of Nursing
Allen Orrin Skaggs, Jr., B.A.J. . . . . Director and Editor of the University News Bureau
Kenneth F. Small . . . . . Director of Radio Station WRUF
Vernon S. Smith, Jr. B.S., Colonel, Air Force . . . . . Professor of Air Science
Dennis Keith Stanley, M.A.E. . . . . Dean of the College of Physical Education and Health
Marshall Owen Watkins, D.P.A. . . . . Director of the Agricultural Extension Service
Joseph Weil, M.S., D.SC. . . . . Dean of the College of Engineering and Director of the Engineering and Industrial Experiment Station
Rae O. Weimer . . . . . Director of the School of Journalism and Communications
Stanley LeRoy West, LL.B., B.S. in L.S. . . . . Director of the University Libraries
Joseph Benton White, Ph.D. (on Leave 1960-61) . . . . . Dean of the College of Education
Kimball Wiles, Ph.D. . . . . Acting Dean of the College of Education
A. Curtis Wilgus, Ph.D. . . . . Director of the School of Inter-American Studies

Officers of Instruction, Research and Administration 1960-1961

(The first date indicates the first year of academic employment; the dates in brackets represent interruption in service; the last date, year of present rank.)

Abbey, Walter Raynard, B.S.M.E., Assistant Professor of Engineering Graphics (1956-1956).

Abbott, Wesley Wendell, B.S.E., Interim Teacher, P. K. Yonge Laboratory School (1958-1958).

Achenbach, Karl Edgar, B.S., Research Associate in Surgery (1959-1959).

Ackerman, Robert Dennis, M.A., Interim Instructor of English (1960-1960).

Adams, Clinton, M.A., Professor of Art. and Head of Department (1957-1957) . (On leave 1960-61).

Adams, Edward David, B.C.S., Assistant to the Director of Finance and Accounting (1960-1960).

Adams, Frank Thompson, Ed.D. (Florida), Dean of Men (1946-1960).

Adams, Katherine Beall, M.S.L.S., Assistant in Library, Architecture and Fine Arts Library (1959-1959).

Adams, Paul L., Ph.D., M.D. (Columbia), Assistant Professor of Psychiatry and Assistant Professor of Pediatrics (1960-1960).

Adams, Perry Ronald, M.A.E., Instructor, P.K. Yonge Laboratory School (1953-1957).

Adlerz, Warren Clifford, Ph.D. (Oregon State), Assistant Entomologist, Watermelon Investigations Laboratory (1958-1958).

Agerschou, Hans Anker Kruse, M.Sc. (Denmark), Assistant in Research, Engineering and Industrial Experiment Station (1958-1959).

Ahrens, Maurice Russell, Ed.D. (Denver), Professor of Education and Assistant Dean, College of Education (1954-1960).

Ainslie, John D., M.D. (California), Assistant Professor of Psychiatry (1958-1958).

Albertson, Rachel, B.A., Editor, Engineering and Industrial Experiment Station (1948-1948).

Albrecht, Ruth E., Ph.D. (Chicago), Profesor of Sociology (1957-1960).

Alleger, Daniel Eugene, M.S., Associate Agricultural Economist, Agricultural Experiment Station (1945-1945).

Allen, Billy Jay, M.A., Assistant State Boys' 4-H Club Agent, Agricultural Extension Service (1953-1957).

Allen, Gilbert M., Jr., B.S., Assistant Director of Purchasing (1952-1952).

Allen, John Jay, Ph.D. (Wisconsin), Assistant Professor of Spanish (1960-1960).

Allen, Robert John, Jr. Ph.D. (Maryland), Assistant Agronomist, Everglades Experiment Station (1950-1950).

Allen, Virginia Frick, M.Ed., Teacher, P. K. Yonge Laboratory School (1958-1958).

Allison, Robert Verrill, Ph.D. (Rutgers), Fiber Technologist, Everglades Experiment Station (1926-1952).

Almeida, John S., M.B.A., Instructor in Accounting and Director, Placement Service, College of Business Administration (1955-1959).

Alston, Clifford, M.S.A., Farm and Home Development Specialist, Agricultural Extension Service (1956-1957).

Ambrose, Edna Virginia, Ed.D. (Columbia), Associate Professor of Education (1958-1958).

Ames, Burton Weber, M.A.E., Director of Employee Personnel Service (1923-1948).

Ammerman, Clarence Bailey, Ph.D. (Illinois), Assistant Animal Nutritionist, Agricultural Experiment Station (1958-1958).

Andersen, Thorkild Wain, M.D. (Copenhagen), Assistant Professor of Surgery (1958-1958).

Anderson, Carl Arthur, M.B.A., Assistant Professor of Accounting (1947-1950).

Anderson, Chris William, Ph.D. (California), Associate Virologist, Agricultural Experiment Station (1950-1959).

Anderson, James Richard, Ph.D. (Maryland), Professor of Geography and Head of Department (1960-1960).

Anderson, Leslie Benjamin, Jr., B.S.A., Assistant in Entomology-Pathology, Citrus Experiment Station (1959-1959).

Anderson, Montgomery Drummond, Ph.D. (Brookings), Professor of Business Statistics and Economics (1927-1927).

Anderson, Richard James, Ph.D. (Michigan), Professor of Psychology; Associate, University Counseling Center (1943 [45-46] 1956).

Anderson, Richard McLemore, M.D. (Emory), Assistant in Medicine (1959-1959).

Anderson, Roland Lewis, Research Associate, Engineering and Industrial Experiment Station (1957-1957).

Anderson, Wallace Earl, M. A., Instructor in Humanities (1958-1958).

Andrews, John William, M.D. (Emory), Chief Resident and Instructor in Medicine (1959-1960).

Anthony, David S., Ph.D. (Wisconsin), Associate Professor of Chemistry (1955-1955). (On leave 1960-61).

Anton, Aaron H., (Yale), Research Associate in Psychiatry (1956-1956).

Appel, Klaus, Fil. Kand. (Uppsala), Visiting Research Assistant Professor of Physics (1960-1960).

Apperson, Frances Eugenia, B.A. in L.S., Assistant Librarian and Head of Documents Department (1943-1948).

Aratowsky, Bernard, Ph.D. (Johns Hopkins), Associate Professor of Foreign Languages (1950-1955).

Ard, William Bryant, Jr., Ph.D. (Duke), Associate Professor of Physics (1959-1959).

Arean, Victor Manuel, M.D. (Madrid), Associate Professor of Pathology, College of Medicine (1957-1957).

Argus, Mary Frances, Ph.D. (Florida), Associate Research Professor, Pharmaceutical Chemistry (1952-1956).

Armstrong, Bruce, B.S., Interim Consultant, Engineering and Industrial Experiment Station (1957 [57-58] 1957).

Arnett, William Tobias, M.A.Arch., Professor of Architecture; Dean Emeritus, College of Architecture and Fine Arts (1933-1949).

Arnold, Luther A., Ed.D. (Florida), Associate Professor of Education (1958-1958).

Arrants, Jock Everrett, M.D. (Virginia), Assistant in Surgery (1960-1960).

Arrington, Lewis Roberts, Ph.D. (Florida), Associate Professor of Animal Nutrition and Associate Animal Nutritionist, Agricultural Experiment Station (1946 [50-52] 1957).

Ash, Willard Osborne, Ph.D. (Virginia Polytechnic Institute), Associate Professor of Statistics, Agronomy, College of Agriculture, Statistical Consultant, Statistical Laboratory (1957-1957).

Ashley, Fay Wilson, M.A., Teacher, P.K. Yonge Laboratory School (1959-1959).

Atchley, Helen B., B.S., Teacher-Dietitian, P. K. Yonge Laboratory School (1958-1958).

Atchley, Mell H., M.A., Associate Professor of Sociology (1947-1958).

Athearn, James Lomen, Ph.D. (Ohio State), Associate Professor of Insurance (1957-1957).

Atkins, Cedric Donald, B.S., Chemist, Citrus Experiment Station (1951-1951).

Attaway, Herbet Bailey, M.S.F., Superintendent, State Forest Ranger School and Assistant Professor of Forestry (1954-1954).

Attaway, John Allen, Ph.D. (Duke), Assistant Chemist, Citrus Experiment Station (1959-1959).

Atwill, William Henry, M.D. (Virginia), Intern in Surgery (1960-1960).

Auffenberg, Walter A., Ph.D. (Florida), Assistant Professor of Biological Sciences and Biology (1956-1956). (On leave 1959-61).

Austin, Keith C., B.S.B.A., Interim Instructor in Accounting (1959-1959).

Austin, Oliver Luther, Ph.D. (Harvard), Associate Curator of Biological Sciences, Florida State Museum (1957-1958).

Awtrey, Robert Adair, M.A., Interim Instructor in Mathematics (1954-1954).

Babers, Henry Jennings, Jr., M.D. (Cornell), Clinical Associate in Surgery (1959-1959).

Bachman, Harold Burton, B.S., Professor Emeritus of Music (1948 [59-60] 1960).

Bader, James Matthew, M.D. (Western Reserve), Intern in Medicine (1960-1960).

Baggarly, Nathaniel Perry, B.M., Teacher, P.K. Yonge Laboratory School (1957-1957).

Bailey, Robert Leo, B.S.E.E., Research Associate, Department of Electrical Engineering and Engineering and Industrial Experiment Station (1960-1960).

Bailey, Thomas Lee, III, Ph.D (Chicago), Associate Professor of Electrical Engineering and Associate Research Professor, Engineering and Industrial Experiment Station; Associate Professor of Physics (1953 [59-60] 1957).

Baker, Frank Sloan, Jr., M.S.A., Associate Animal Husbandman, North Florida Experiment Station (1945-1958).

Baker, Melvin Charles, Ed.D. (Illinois), Professor of Education and Head of Foundations Department (1952-1956).

Baldwin, William Marshall, M.S., Instructor in Engineering Mechanics (1957-1957).

Ballard, Stanley Sumner, Ph.D. (California), Professor of Physics and Head of Department (1958-1958).

Bangs, John Robert, M.E., Visiting Professor of Management (1957-1957).

Bannister, Turpin Chambers, F.A.I.A., Ph.D. (Harvard), (D.F.A. [Honorary] Denison), Dean of the College of Architecture and Fine Arts and Professor of Architecture (1957-1957).

Baranowski, Richard Matthew, Ph.D. (Connecticut), Assistant Entomologist, Sub-Tropical Experiment Station (1956-1956).

Barger, Benjamin, Ph.D. (Duke), Clinical Psychologist in Student Health and Lecturer in Psychology (1959-1960).

Baringer, William Eldon, Ph.D. (Illinois), Professor of Social Sciences (1947-1949).

Barrett, Albert Michael, Ph.D. (Pennsylvania State), Assistant Professor of Rehabilitation Counseling and Psychology (1953-1953).

Barrineau, Thomas Lorren, M.A.E., District Supervisor of Vocational Education (1946-1947).

Barron, Rodger William, B.A., Assistant in Chemistry, Citrus Experiment Station (1956-1956).

Barrus, Edith Young, B.A., District Home Demonstration Agent, Agricultural Extension Service, Tallahassee (1918-1943).

Bartlett, George Robert, Ph.D. (Chicago), Professor of Philosophy and Head of Department (1947-1953).

Bartley, Ernest R., Ph.D. (California), Professor of Political Science (1949-1955).

Barton, George Monroe, M.Ed., Interim Instructor of Education (1960-1960).

Barton, Pauline Hinton, M.S., Assistant Professor in Nursing (1959-1959). (On leave 1960-1961).

Bartoszek, Frances Elliott, M.Ed., Instructor, P. K. Yonge Laboratory School (1957-1958).

Bashaw, William Howard, M.P.H., Instructor, P.K. Yonge Laboratory School (1954-1958).

Bates, Wilbur Harvey, B.S.F., Instructor in Forestry, State Forest Ranger School (1956-1956).

Baughan, Denver Ewing, Ph.D. (Yale), Professor of English (1946-1957).

Bault, Roger Quincy, M.A., Assistant Professor of Physical Sciences (1947-1950).

Baxter, John Franklin, Ph.D. (Johns Hopkins), Professor of Chemistry (1952 [59-60] 1952).

Beach, Robert O., Assistant Professor of Medical Illustrations and Head of the Department (1960-1960).

Beall, Charles William, D.V.M. (Ohio State), Interim Research Associate, Agricultural Experiment Station (1960-1960).

Bear, Elizabeth Marie, M.S., Instructor in Nursing (1958-1958).

Beard, Percy Morris, M.S., Associate Professor of Professional Physical Education; Track Coach; General Manager; Assistant Athletic Director, Division of Intercollegiate Athletics (1936-1960).

Beaudoin, Allan Roger, Ph.D. (State Univ. of Iowa), Assistant Professor of Anatomy, College of Medicine (1956-1958).

Beckenbach, Joseph Riley, Ph.D. (Rutgers), Director, Agricultural Experiment Station (1937-1955).

Becker, Charles Henry, Ph.D. (Florida), Professor of Pharmacy (1947-1954).

Becker, Raymond Brown, Ph.D. (Minnesota), Professor of Dairy Husbandry and Dairy Husbandman, Agricultural Experiment Station (1929-1934).

Beckwith, Stephen Lyon, Ph.D. (Michigan), Associate Professor of Wildlife Management, School of Forestry; Associate Forester, Agricultural Experiment Station (1948-1955).

Bedecki, Thomas George, M.P.E., Interim Instructor in Physical Education (1958-1958).

Bedell, Sullivan Gale, M.D. (Virginia), Lecturer in Psychiatry (1959-1959).

Beers, George St. Clair, M.Ed., Teacher, P. K. Yonge Laboratory School (1960-1960).

Beirne, Raymond Michael, M.A., Instructor in English (1954-1954).

Beisler, Walter Herman, D.Sc. (Princeton), Professor of Chemical Engineering and Head of Department (1922-1939).

Belknap, Sara Yancey, M.A., B.S. in L.S., Assistant in Library, Music and Dance Archives (1953-1953).

Bell, Eudorian N., Superintendent of Maintenance (1943-1946).

Bennett, E. Jean, M.D. (Florida), Intern in Pediatrics (1960-1960).

Bennett, Robert Broadhurst, Ph.D. (Purdue), Professor of Chemical Engineering and Research Professor, Engineering and Industrial Experiment Station (1953-1953). (On leave 1960-61).

Benninger, Lawrence J., Ph.D. (Missouri), Professor of Accounting (1956-1959).

Benson, Lester Leon, B.S., Assistant Meteoroligst, Weather Forecasting Service, U.S. W.B. (1956-1956).

Bentley, George Robert, Ph.D. (Wisconsin), Professor of Social Sciences and Logic; Counselor (1938-1955).

Benz, William Patrick, M.P.H., Assistant Professor of Physical Education (1951-1955).

Berg, Constance DeMuth Schraemeyer, M.A., Assistant Professor of Education (1956-1956).

Berner, Lewis, Ph.D. (Florida), Professor of Biological Sciences and Interim Head of Department; Professor of Biology; Professor of Entomology (1946-1959).

Bessette, Leo, B.B.A., Fiscal Contract Officer, Finance and Accounting (1953-1953).

Bethea, Sally Brook, M.L.S., Assistant in Library, Technical Processes (1959-1959).

Bickerstaff, Curtis E., B.A., Lt. Col., Assistant Professor of Air Science (1958-1958).

Bigelow, Gordon Ellsworth, Ph.D. (Johns Hopkins), Assistant Professor of English (1951-1951).

Biggs, Robert Hilton, Ph.D. (Purdue), Assistant Biochemist, Agricultural Experiment Station (1957-1957).

Bingham, Ned Eldred, Ph.D. (Columbia), Professor of Education (1950-1950).

Bird, Edward Dennis, M.D. (London), Research Fellow in Medicine (1960-1960).

Biscoe, Alvin B., Jr., M.B.A., Instructor of Finance (1960-1960).

Black, Alvin Percy, Ph.D. (Iowa), Research Professor of Chemistry and Sanitary Science (1919-1923).

Black, Kenneth Leroy, LL.B., Professor of Law (1949-1952).

Blackstone, William Thomas, Ph.D. (Duke), Assistant Professor of Philosophy (1958-1960).

Blake, Robert George, Ph.D. (Florida), Associate Professor of Mathematics (1943-1955).

Blalock, Lewis Florence, M.A., Director of Admissions (1930-1935).

Blanchard, Frank Nelson, Jr., Ph.D. (Michigan), Interim Assistant Professor of Geology (1958-1958).

Blanton, Franklin Sylvester, Ph.D. (Cornell), Professor of Entomology (1956-1956).

Block, Herman Henry, C.E., Professor of Building Construction and Head of Department (1949-1957).

Block, Seymour Stanton, Ph.D. (Pennsylvania State), Associate Research Professor, Engineering and Industrial Experiment Station (1944-1950).

Blodgett, Ralph Hamilton, Ph.D. (Pennsylvania), Professor of Economics (1950-1950).

Blossom, Thomas, Ph.D. (Duke), Assistant Professor of Humanities (1958-1958).

Blue, William Guard, Ph.D. (Missouri), Associate Biochemist, Agricultural Experiment Station (1950-1956).

Bodine, Willis Ramsey, Jr., M.M., Instructor in Music (1959-1959).

Bodnar, Peter, M.A., Assistant Professor of Education (1960-1960).

Boitnott, Donna Marcia, M.M.E., Interim Instructor in Music (1959-1959).

Bolles, Robert Stephen, Ed.D. (Columbia), Assistant Dean of the College of Architecture and Fine Arts; Professor of Music (1948-1960).

Boone, Lalia Phipps, Ph.D. (Florida), Associate Professor of English (1950-1961).

Borders, Huey Ingles, Ph.D. (Minnesota) Associate Plant Pathologist, Everglades Experiment Station (1944 [46-59] 1944).

Borgia, Anges Petrenella, B.S., Associate Professor of Art (1951-1951).

Botts, Kathleen Mountz, M.F.A., M.Ed., Assistant Program Director, Florida Union (1955-1959).

Bouland, Thomas G., M.D. (Medical Evangelists), Clinical Associate in Surgery (1960-1960).

Bourke, Norman, M.E., Professor of Mechanical Engineering (1943-1948), Professor Emeritus (1960).

Bovee, Eugene Cleveland, Ph.D. (California), Associate Professor of Biology (1955-1958).

Bowdre, Paul Hull, Jr., M.A., Teaching Associate in English (1959-1959).

Bowers, Robert Hood, Ph.D. (Yale), Professor of English (1946-1955).

Bowles, Richard William, M.S., Assistant Professor of Music (1958-1960).

Bowman, Earl K., B.S., Associate Industrial Engineer, U.S.D.A., Agricultural Experiment Station (1957-1957).

Boyd, Clifford Allen, Ed.D. (Boston), Professor of Professional Physical Education (1950-1955).

Boyd, Frederick Tilghman, Ph.D. (Wisconsin), Agronomist, Everglades Experiment Station (1938 [41-52] 1959).

Boyd, Maurice, Ph.D. (Michigan), Professor of Social Sciences and Head of Department (1956-1959).

Boynton, Allen Ross, M.S., Assistant in Research, Nuclear Engineering Department (1960-1960).

Bradbury, Robert Wesley, Ph.D. (Michigan), Professor of Economics (1950-1952).

Bradshaw, Carol Joy, B.S., Instructor in Nursing (1960-1960).

Bradshaw, James Philip, M.A., M.S. in L.S., Associate Professor of English (1946-1959).

Brady, Marna Venable, Ed.D. (Columbia), Dean of Women (1948-1948).

Bragg, Vernon Chaplin, Ph.D. (Northwestern), Assistant Professor of Speech and Clinical Audiologist, College of Health Related Services (1959-1959).

Branch, John T., Jr., M.B.A., Field Representative and Instructor for Business and Resource Development, General Extension Division (1958-1960).

Brandt, A. E., Ph.D. (Iowa State), Statistician and Head of Statistical Section, Agricultural Experiment Station (1958-1958).

Bratley, Homer Eells, M.S.A., Assistant Entomologist, Agricultural Experiment Station (1932-1932).

Brawley, Bob Watson, M.D. (North Carolina), Assistant in Medicine (1959-1960).

Braxton, Doris Blackwell, M.D. (North Carolina), Assistant in Pediatrics (1959-1960).

Breland, Herman Leroy, Ph.D. (Illinois), Assistant Soils Chemist, Agricultural Experiment Station (1952-1952).

Brewster, William Russell, Jr., M.D. (Columbia), Assistant Professor of Surgery (1959-1959).

Brey, Wallace Siegfried, Ph.D. (Pennsylvania), Associate Professor of Chemistry and Associate Research Professor (1952-1955).

Brill, Thomas Mortensen, M.D., (Michigan), Clinical Associate in Pediatrics (1959-1959).

Bristol, Loris Rood, M.A., Assistant Profesor of Education (1943-1950).

Brodkorb, Pierce, Ph.D. (Michigan), Professor of Biological Sciences and Professor of Biology (1946-1955).

Brogdon, Byron Gilliam, M.D. (Arkansas), Assistant Professor of Radiology (1960-1960).

Brogdon, James Edison, M.Ag., Associate Entomologist, Agricultural Extension Service (1953-1957).

Brookbank, John Warren, Ph.D. (California Institute of Technology), Associate Professor of Biology (1955-1960).

Brooke, Donald Lloyd, Ph.D. (Illinois), Associate Agricultural Economist, Agricultural Experiment Station (1946-1946).

Brooker, Marvin Adel, Ph.D. (Cornell), Dean, College of Agriculture and Professor of Agricultural Economics (1927 [34-47] 1956).

Brooks, Albert Nelson, Ph.D. (Wisconsin), Plant Pathologist, Strawberry Investigations Laboratory (1926-1932).

Brooks, Harold Kelly, M.A., Assistant Professor of Geology (1956-1956).

Brothers, Shelby Lee, B.S.A., Assistant Agronomist, Agricultural Extension Service (1935-1956).

Browder, John Morgan, A.B., Captain, Artillery, Assistant Professor of Army Science and Tactics (1959-1959).

Brown, George Alton, B.S.A., Assistant Soils Surveyor, Agricultural Experiment Station (1959-1959).

Brown, Henry Clay, Ph.D. (Florida), Associate Research Professor, Engineering and Industrial Experiment Station and Associate Professor of Chemistry (1952-1956).

Brown, James Cooke, Ph.D. (Minnesota), Assistant Professor of Sociology and Anthropology (1955-1955).

Brown, Judson S., Ph.D. (Yale), Graduate Research Professor of Psychology (1960-1960).

Brown, William Joe, B.S., Assistant Editor, Agricultural Experiment Station (1960-1960).

Brown, Wilson Forest, Ph.D. (Ohio State), Professor of Chemical Engineering and Research Professor, Engineering and Industrial Experiment Station (1950-1950). (On leave 1960-1961).

Brown, Woodrow Wilson, M.Ag., State Boys' 4-H Club Agent, Agricultural Extension Service (1943-1950).

Browne, Eleanor Bode, Ph.D. (Ohio State), Professor of Education (1948-1948).

Broyles, Arthur Augustus, Ph.D. (Yale), Associate Professor of Physics and Physical Sciences (1949 [53-59] 1959).

Brubaker, Horace G., M.A., Internal Auditor (1958-1960).

Brunet, Joseph, Ph.D. (Stanford), Professor of Classical Languages and Head of Department of Foreign Languages (1927-1950).

Bruun, Jens Peder Moeller, Ph.D. (Denmark), Research Professor and Head, Coastal Engineering Laboratory, Engineering and Industrial Experiment Station (1954-1958).

Bryan, Robert Armistead, Ph.D. (Kentucky), Assistant Professor of English (1957-1957).

Bryant, David Raymond, Jr., A.B., Administrative Manager, Agricultural Experiment Station and Agricultural Extension Service (1958-1958).

Bryant, Fred David, B.A. in L.S., Associate Librarian in Charge of Health Center Library (1947-1958).

Buchanan, Barbara Boring, M.S., Assistant Professor in Nursing (1958-1958).

Buchanan, Charles E., A.B., Research Associate in Psychiatry (1959-1959).

Buck, McKenzie William, Ph.D. (Iowa State), Head of Speech and Hearing Clinic and Associate Professor of Speech (1953-1957).

Buckley, Arthur Edward, M.S., Lieutenant Colonel, Artillery, Assistant Professor of Army Science and Tactics (1959-1959).

Buechler, John Lewis, M.A., B.A. in L.S., Assistant Librarian and Head of Department of Special Collections (1959-1959).

Bullen, Ripley Pierce, M.E., Curator of Social Sciences, Florida State Museum (1952-1952).

Bunn, Joseph P., M.D. (Duke), Assistant in Pediatrics (1960-1960).

Bunnell, Bradford Noble, Ph.D. (Carnegie), Assistant Professor of Psychology (1958-1958).

Bunting, Donald Charles, M.S., Assistant Professor of Physical Sciences (1948-1948).

Burdine, Howard William, Ph.D. (Cornell), Assistant Soils Chemist, Everglades Experiment Station (1955-1955).

Burgis, Donald Stafford, M.S.A., Assistant Horticulturist, Gulf Coast Experiment Station (1946-1946).

Burnett, Myrtle Smith, M.Ed., Interim Instructor, Foundations of Education (1959-1959).

Burns, Mildred P., B.S., Assistant Professor in Nursing (1959-1959).

Burns, William Calvin, M.S., Assistant Animal Husbandman, Acting in Charge, U.S.D.A., West Central Florida Experiment Station (1957-1957).

Burton, May Elizabeth, Ph.D. (Florida), Assistant Professor of Journalism and Communications and TV Writer, Television Station WUFT (1957-1958).

Busby, Joe Neil, B.S.A., Assistant Director, Agricultural Extension Service (1947 [52-56] 1956).

Buteau, Leon Joseph, Jr., M.S.M.E., Instructor in Mechanical Engineering (1960-1960).

Butler, George Bergen, Ph.D. (North Carolina), Professor of Chemistry and Research Professor (1946-1957).

Butson, Keith Darrow, M.S., State Climatologist, U.S.W.B., Agricultural Experiment Station (1956-1956).

Butt, Arnold Frederick, M.Arch., Assistant Architect, Office of the Consulting Architect (1952-1955).

Butterworth, James Donald, Ph.D. (Northwestern), Professor of Marketing and Head of the Department (1955-1958).

Byers, Frank Matthew, Jr., M.D. (Duke), Assistant in Surgery (1960-1960).

Byrne, Edward G., M.D. (Louisville), Clinical Associate in Medicine (1959-1959).

Byrom, Mills Herbert, M.S., Agricultural Engineer, U.S.D.A., Everglades Experiment Station (1958-1958).

Bzoch, Kenneth R., Ph.D. (Northwestern), Associate Professor of Speech and Speech Pathologist, College of Health Related Services (1960-1960).

Cake, Edwin Wood, Ph.D. (Cornell), Economist in Marketing, Agricultural Extension Service (1952-1952).

Calais, Jean-Louis, M.Sc., Research Associate in Chemistry (1960-1960).

Calaway, Wilson Thayer, M.S., Assistant Research Professor, Engineering and Industrial Experiment Station (1946-1948).

Caldwell, Robert Edward, Ph.D. (Purdue), Associate Professor of Soils and Associate Chemist, Agricultural Experiment Station (1941-1956).

Caldwell, Wofford T., B.S., Assistant Professor of Building Construction (1957-1957).

Calhoun, Eunice Zipperer, M.A.E., Instructor, P.K. Yonge Laboratory School (1944-1952).

Callaway, Thomas R., M.Arch., Interim Instructor in Architecture (1956 [57-59] 1960).

Callis, Mary Aline, M.A., Assistant Professor of Education (1958-1958).

Calvert, Edith, B.A., Resident Counselor, Women's Residence Halls (1960-1960).

Cameron, Edith McBride, B. J., Associate Professor of Women's Adult Education Activities, and Head of Department, General Extension Division (1927-1944).

Camp, Arthur Forest, Jr., M.S.E., Instructor in Electrical Engineering and Assistant in Research, Engineering and Industrial Experiment Station (1957-1957).

Camp, Susan Christian, M.S., Assistant Nutritionist, Agricultural Extension Service, Tallahassee (1955-1955).

Campbell, Arthur Lee, B.Arch., Interim Assistant Professor of Architecture (1959-1959).

Campbell, Carl Walter, Ph.D. (Purdue), Assistant Horticulturist, Sub-Tropical Experiment Station (1960-1960).

Campbell, Lindsey Drayton, M.D. (Bowman Gray), Lecturer in Psychiatry (1960-1960).

Campbell, Roy, M.D. (Emory), Clinical Associate in Surgery (1959-1959).

Canetto, Victoria, M.A., Assistant Professor in Nursing (1960-1960).

Cannon, Frances Claire, M.S., Assistant Health Education Specialist, Agricultural Extension Service, Tallahassee (1952-1952).

Capel, George Lafayette, Ph.D. (Florida), Associate Agricultural Economist, U.S.D.A., Agricultural Experiment Station (1955-1960).

Carew, Donald K., M.A., Resident Counselor, Men's Residence Halls (1958-1958).

Carleton, William Graves, J.D., M.A., Professor of History, Political Science and Social Sciences (1927 [31-36] 1940).

Carlisle, Victor Walter, M.S.A., Teaching Assistant in Soils (1947-1954).

Carnell, Corbin Scott, Ph.D., (Florida), Assistant Professor of English (1958-1960).

Carpenter, James Woodford, Ph.D. (Florida), Assistant Animal Husbandman, Agricultural Experiment Station (1953 [54-59] 1959).

Carpenter, Thomas Glenn, M.A., Assistant Director of Housing (1957-1959).

Carr, Archie Fairly, Ph.D. (Florida), Graduate Research Professor in Biology (1937-1959).

Carr, James Giles, M.Ed., Instructor-Counselor of Education (1959-1959).

Carr, Thomas Deaderick, Ph.D. (Florida), Associate Professor of Physics (1958-1960).

Carrera, Frank, M.D. (Emory), Senior Assistant Resident in Psychiatry (1960-1960).

Carroll, Ralph Elliott, M.S., Assistant Research Professor, Engineering and Industrial Experiment Station (1946-1946).

Carroll, William Richard, Ph.D. (Minnesota), Professor of Bacteriology (1927-1941).

Carson, Marion W., M.B.A., Instructor in Accounting (1955-1956).

Carson, Robert Emmett, Ph.D. (Michigan), Professor of Humanities (1946-1946).

Carter, Lilly Isabelle, M.S. in L.S., Assistant Librarian and Head of Acquisitions Department (1943-1944).

Carver, William Angus, Ph.D. (Iowa State), Agronomist, Agricultural Experiment Station (1925-1953).

Casey, Ernest R., Jr., M.D. (George Washington), Clinical Associate in Surgery (1959-1959).

Cassin, Sidney, Ph.D. (Texas), Assistant Professor of Physiology, College of Medicine (1957-1960).

Cassleman, Theron W., M.S., Assistant Agricultural Engineer, Everglades Experiment Station (1960-1960).

Cate, Charles Allen, Ed.D. (Texas), Associate Professor of Education (1953 [56-58] 1953).

Cathcart, Edward Reaver, M.D. (South Carolina), Assistant Resident in Obstetrics and Gynecology (1960-1960).

Cave, Alfred A., M.A., Interim Instructor of Social Sciences (1960-1960).

Chalker, Paul, M.A., Assistant Editor, University of Florida Press (1957-1957).

Chalmers, David Mark, Ph.D. (Rochester), Assistant Professor of Social Sciences (1955-1957). (On leave 1960-61).

Chambers, William Norman, M.D. (Washington), Lecturer in Psychiatry (1959-1959).

Chapman, Herbert Lee, Jr., Ph.D. (Iowa State), Associate Animal Husbandman, Everglades Experiment Station (1951 [53-55] 1957).

Chapman, Margaret Louise, M.A., B.S. in L.S., Assistant Librarian, P.K. Yonge Library of Florida History (1956-1956).

Chapman, William Fred, Jr., M.S., Assistant in Agricultural Economics, U.S.D.A., Agricultural Experiment Station (1960-1960).

Chapman, Willis Harleston, M.S., Agronomist in Charge, North Florida Experiment Station (1942-1959).

Chastain, Barbara H., M.S., Research Assistant, Pharmaceutical Chemistry (1955-1955).

Chaudhuri, Sachindra Nath, Ph.D. (Calcutta), Assistant Research Professor in Medicine (1958-1960).

Chen, Wayne Haw-Wei, Ph.D. (Washington), Professor of Electrical Engineering (1952-1957).

Cheng, Amber, Ph.D. (California), Research Associate in Surgery (1959-1959).

Cheng, Nancy Y., M.S., Instructor in Nursing (1960-1960).

Cherry, Henry Spurgeon, M.S., Professor of Physical Education and Head, Department of Intramural Athletics and Recreation (1942-1952).

Childers, William Cole, Ph.D. (Florida), Assistant Professor of English and Logic (1950 [58-59] 1959).

Childress, Robert Clair, M.D. (Indiana), Research Associate in Medicine (1960-1960).

Chipley, Edmund Lee, B.S.Ch.E., Assistant Research Professor, Engineering and Industrial Experiment Station (1952-1952).

Chiu, Tsao-Yi, M.S.E., Research Associate, Engineering and Industrial Experiment Station (1959-1959).

Chmielewski, Edward V., Ph.D. (Harvard), Assistant Professor of History and Social Sciences (1958-1958).

Choate, Rush Edgar, M.S.A., Professor of Agricultural Engineering and Agricultural Engineer, Agricultural Experiment Station (1947-1959).

Christiansen, Kenneth A., Ed.D. (Missouri), Director of Educational TV, Professor of Journalism and Communications (1959-1959).

Civin, Paul, Ph.D. (Duke), Visiting Research Professor of Mathematics (1960-1960).

Clancy, Donald Washburn, Ph.D. (California), Entomologist, Citrus Experiment Station, U.S.D.A., (1958-1958).

Clark, Donald L., M.A., Resident Counselor, Men's Residence Halls (1958-1958).

Clark, Fred, M.S.A., Associate Agronomist, Agricultural Experiment Station (1940-1953).

Clark, Harold Brown, Ph.D. (Kentucky), Professor of Agricultural Economics and Agricultural Economist, Agricultural Experiment Station (1958-1958).

Clark, Jack Lewis, B. Arch., Assistant Professor of Architecture (1955-1955).

Clark, Vernon Wilmot, LL.B., Professor of Law (1946-1946).

Clark, Washington Augustus, M.A., Associate Professor of English (1931-1956).

Cline, Robert Stuart, Ph.D. (Pennsylvania), Associate Professor of Insurance and Assistant Dean, College of Business Administration (1955-1957).

Clubok, Alfred B., M.A., Interim Instructor of Social Sciences and Political Science (1958-1958).

Cocks, George Rowland, M.D. (Pennsylvania), Assistant in Psychiatry (1961-1961).

Coggins, Deborah, M.D. (Duke), Special Trainee in Psychiatry (1959-1959).

Coggins, Wilmer J., M.D. (Duke), Assistant in Medicine (1960-1960).

Cohen, Alvin, M.B.A., Interim Instructor of Economics (1959-1960).

Cohen, Mortimer, Ph.D. (Minnesota), Associate Plant Pathologist, Citrus Experiment Station (1956-1959).

Coke, Frank Van Deren, M.F.A., Assistant Professor of Art (1958-1960).

Colgate, Samuel Oran, Ph.D. (M.I.T.), Assistant Professor of Chemistry (1959-1959).

Collins, Charles J., M.D. (Emory), Lecturer in Obstetrics and Gynecology (1959-1959).

Combs, Arthur Wright, Ph.D. (Ohio State), Professor of Education (1954-1954).

Combs, George Ernest, Ph.D. (Iowa State), Assistant Professor of Animal Husbandry and Assistant Animal Husbandman, Agricultural Experiment Station (1951 [52-55] 1955).

Comiter, Donald, M.D. (Chicago), Intern in Surgery (1960-1960).

Conger, Alan Douglas, Ph.D. (Harvard), Research Professor in Radiation Biology (Botany) (1958-1958).

Conner, Frederick William, Ph.D. (Pennsylvania), Assistant Dean of the Graduate School and Professor of English (1935-1957).

Conover, Robert Armine, Ph.D. (Illinois), Plant Pathologist, Sub-Tropical Experiment Station (1947-1948).

Conroy, Stephen S., M.A., Instructor in Social Sciences and Humanities (1960-1960).

Constans, Henry Philip, LL.B., M.A., Professor of Speech (1929-1937).

Conyers, Albert Lee, M.S., Instructor in Civil Engineering (1959-1960).

Coogle, Esther, M.S., Artist and Assistant in Research, Biology (1946-1950).

Cook, Allyn Austin, Ph.D. (Wisconsin), Assistant Plant Pathologist, Agricultural Experiment Station (1954-1956).

Cook, Robert Edward, Ph.D. (North Carolina State), Assistant Professor of Poultry Husbandry and Assistant Poultry Husbandman, Agricultural Experiment Station (1958-1958).

Cooley, Howard Dager, M.S.E., Interim Instructor in Industrial Engineering (1960-1960).

Cooley, Irwin David, M.S.E.M., Instructor in Engineering Mechanics and Assistant in Research, Engineering and Industrial Experiment Station (1956-1956). (On leave 1960-61).

Cooper, John Francis, M.S.A., Editor and Head of Editorial Department, Agricultural Experiment Station and Agricultural Extension Service (1925-1954).

Cooper, Joyce, Ed.D. (Columbia), Professor of Education (1957-1957). (On leave 1960-61).

Copeland, Clyde Xenophon, Jr., M.D. (Tulane), Fellow in Surgery (1960-1960).

Coppock, Glenn Edgar, M.S., Associate Agricultural Engineer, Citrus Experiment Station (1958-1958).

Coram, Wilmer Thomas, M.A.E., Assistant Professor, Extension Classes and Workshops, General Extension Division (1957-1957).

Corbett, Merwin Kenneth, Ph.D. (Cornell), Assistant Virologist, Agricultural Experiment Station (1954-1954).

Cornwell, Anna Bertha, M.A., Senior Resident Counselor, Women's Residence Halls (1954-1960).

Cotter, Julian Ray, M.D. (Johns Hopkins), Postdoctoral Research Fellow in Obstetrics and Gynecology (1959-1960).

Covington, Harrison Wall, M.F.A., Associate Professor of Art (1949-1960).

Cowan, Russell Walter, Ph.D. (California), Associate Professor of Mathematics (1947-1947).

Cox, Danny Dean, Ph.D. (Wisconsin), Assistant Professor of Parasitology and Assistant Parasitologist, Agricultural Experiment Station (1957-1957).

Cox, Ernest Haynes, Ph.D. (North Carolina), Professor of English and Logic; Counselor (1947-1947).

Crago, John A., M.D. (Cornell), Clinical Associate in Medicine (1959-1959).

Crall, James Monroe, Ph.D. (Missouri), Plant Pathologist in Charge, Watermelon and Grape Investigations Laboratory (1952-1954).

Cramer, William Herbert, Ph.D. (Pennsylvania State), Assistant Professor of Electrical Engineering and Assistant Research Professor, Engineering and Industrial Experiment Station (1953-1953).

Crampton, Charles Frieman, Ph.D. (Indiana), Assistant Professor of Pathology, College Medicine (1956-1956).

Crandall, Catherine Ann, Ph.D. (Purdue), Research Associate in Pathology (1960-1960).

Crandall, Richard B., Ph.D. (Purdue), Instructor in Microbiology (1960-1960).

Craps, John Ellis, Ph.D. (Johns Hopkins), Assistant Professor of German (1939 [40-46] 1952).

Craven, Roy C., M.F.A., Assistant Professor of Art (1954-1957).

Creel, Austin Bowman, Ph.D. (Yale), Assistant Professor of Religion (1957-1957).

Creighton, John Thomas, Ph.D. (Ohio State), Professor of Entomology and Head of Department (1929-1937).

Cremata, Vincent Y., M.D. (Florida), Intern in Medicine (1960-1960).

Cresap, Ida Keeling, Librarian, Agricultural Experiment Station (1923-1923).

Crevasse, Lamar Earle, Jr., M.D. (Duke), Assistant Professor of Medicine (1958-1959).

Crews, James William, Ed.D. (Indiana), Assistant Professor of Business Education (1948-1954).

Crickenberger, Margaret Elizabeth, M.S., Assistant Professor of Physical Education (1955-1955).

Crist, Raymond E., Docteur es Lettres (Grenoble, France), Research Professor of Geography (1951-1951).

Crist, Robert Louis, M.A., Interim Instructor in English (1953 [57-60] 1953).

Crittenden, Charles Christopher, Jr., M.A., Instructor in Philosophy (1960-1960).

Crockett, Joe Richard, B.S.A., Interim Assistant in Animal Husbandry, Everglades Experiment Station (1960-1960).

Crone, Ernest George, M.Ed., Instructor in Physical Education and Swimming Coach (1957-1957).

Crosby, Gordon Eugene, B.S.C.E., Assistant Professor of Building Construction (1960-1960).

Crosby, Harold Bryan, LL.B., Professor of Law (1948 [48-60] 1960).

Cross, Clark Irvin, Ph.D. (Washington), Associate Professor of Geography and Physical Sciences (1949-1954).

Cross, William Gail, B.A., Adviser to Fraternities (1960-1960).

Crowe, Marguerite O'Loghlin, M.S., Interim Assistant Research Professor, Mechanical Engineering, Engineering and Industrial Experiment Station (1955-1956).

Cruickshanks, Alexander III, B.S.B.A., Interim Instructor of Economics (1960-1960).

Crum, Larry Lee, M.B.A., Assistant Professor of Finance (1959-1959).

Crutcher, George Lee, M.A.E., Associate Professor of Visual Instruction and Head of Department, General Extension Division (1946-1946).

Cruze, Kenneth, M.D. (Medical Evangelists), Fellow in Thoracic Surgery (1960-1960).

Culpan, Florence M., M.A., Instructor in Nursing (1959-1959).

Cumbee, Carroll Fleming, M.A.E., Associate Professor of Education (1936-1946).

Cunha, Tony Joseph, Ph.D. (Wisconsin), Professor of Animal Husbandry and Head of Department; Animal Husbandman and Head of Department, Agricultural Experiment Station; Animal Industrialist and Head of Department, Agricultural Extension Service (1948-1950).

Cunningham, Hugh W., M.A., Assistant Professor of Journalism and Communications (1955-1957).

Cunningham, Myron Arthur, Ed.D. (Northwestern), Professor of Education (1953-1958).

Curran, Robert Lynn, Ed.D. (Harvard), Associate Professor of Education (1952-1956).

Curtis, Clayton C., Ph.D. (Indiana), Assistant Professor of Real Estate (1958-1958).

Cutler, Richard Oscar, M.A., Instructor of Physical Sciences (1958-1959).

Cutler, Ronald John, Ed.D. (Columbia), Associate Professor of English (1946-1959).

Dahlgard, Muriel Genevieve, Ph.D. (Kansas), Assistant Research Professor, Pharmaceutical Chemistry (1956-1960).

Dalsheimer, Barbara Corinne, M.P.H., Instructor, P.K. Yonge Laboratory School (1955-1960).

Dalton, George Ronald, Ph.D. (Michigan), Assistant Professor of Nuclear Engineering (1959-1959).

Danburg, Russell Laverne, M.M., Associate Professor of Music (1948-1949).

Danis, Anthony Leo, M.S., Research Professor, Engineering and Industrial Experiment Station (1953-1953).

Dann, Philip, M.D. (Louisiana State), Clinical Associate in Surgery (1959-1959).

Dantzman, Charles Leonard, Ph.D. (Florida), Assistant Soils Chemist, Range Cattle Experiment Station (1959-1960).

Darby, John F., Ph.D. (Wisconsin), Associate Plant Pathologist, Central Florida Experiment Station (1951-1956).

Dasinger, Bruce Lamar, Ph.D. (Wisconsin), Postdoctoral Research Fellow in Microbiology (1960-1960).

Dauer, Manning Julian, Ph.D. (Illinois), Professor of Political Science and Head of Department (1933-1950).

DaVault, James W., Ph.D. (Columbia), Professor of Accounting (1947-1947).

Davidson, Robert Franklin, Ph.D. (Yale), Professor of Humanities and Head of Department (1946-1946).

Davis, Edward Arnold, Ed.D. (Florida), Assistant Professor of Education (1951-1951).

Davis, George Kelso, Ph.D. (Cornell), Professor of Animal Nutrition and Animal Nutritionist, Agricultural Experiment Station; Director, Nuclear Sciences (1942-1960).

Davis, Gerald Rogers, B.S., Assistant Meteorologist, U.S.W.B., Weather Forecasting Service (1960-1960).

Davis, Horance Gibbs, Jr., M.A., Assistant Professor of Journalism and Communications (1954-1957).

Davis, Hugh C., Jr., Ph.D. (Tennessee), Assistant Professor of Psychology and Clinical Psychologist, College of Health Related Services (1960-1960).

Davis, James Karnes, M.D. (Duke), Intern in Surgery (1960-1960).

Davis, John Henry, Ph.D. (Chicago), Professor of Botany (1946 [58-60] 1946).

Davis, John Wesley, B.S.A., Assistant in Entomology-Pathology, Citrus Experiment Station (1951-1951).

Davis, Josh D., M.D. (Vanderbilt), Special Trainee in Psychiatry (1960-1960).

Davis, Julian M., B.S.E.E., Director of Finance and Accounting, (1958-1858).

Davis, Marian Victoria, M.A., Instructor, P.K. Yonge Laboratory School (1954-1954).

Davis, Robert Alvin, M.A., Interim Instructor in Geography (1958-1958).

Davis, Robert Stanley, B. Arch., Assistant Professor of Architecture (1958-1958).

Dawson, Joseph Green, Ph.D. (Chicago), Professor of Psychology and Head of Psychological Services, College of Health Related Services (1959-1959).

Day, James Westbay, J.D. (Florida), Professor of Law (1921 [27-29] 1930).

Day, Jane Maxwell, B.A., Instructor in Mathematics (1959-1960).

Day, Richard Lorey, Ph.D. (Illinois), Assistant Professor of Geography (1950-1959).

Dean, Charles Edgar, Ph.D. (North Carolina State), Assistant Agronomist, North Florida Experiment Station (1959-1960).

Dean, Rollo Hiram, Assistant Meteorologist, Weather Forecasting Service, U.S.W.B. (1942-1942).

Decker, Phares, Ph.D. (Cornell), Professor of Plant Pathology and Head of Department, College of Agriculture; Plant Pathologist and Head of Department, Agricultural Experiment Station (1942-1956).

DeFalco, Joseph Michael, M.A., Interim Instructor in English (1960-1960).

Degnan, James Philip, M.A., Interim Instructor in English (1957-1957).

DeGrove, John M., Ph.D. (North Carolina), Assistant Professor of Political Science (1958-1958).

DeHoff, Robert Thomas, Ph.D. (Carnegie Tech), Assistant Research Professor, Engineering and Industrial Experiment Station (1959-1959).

Deinzer, Harvey T., LL.B., Ph.D. (Michigan), Professor of Accounting (1947-1949).

Delony, Dexter, LL.M., Professor of Law (1948-1951).

Denham, Sam W., M.D. (Emory), Lecturer in Obstetrics and Gynecology (1959-1959).

Dennison, Raymond Alexander, Ph.D. (Iowa), Professor of Food Technology and Nutrition and Head of Department; Biochemist, Agricultural Experiment Station (1945-1956).

Der, Don Wing, M.A., Interim Instructor in English (1960-1960).

Derrick, Clarence, Ph.D. (Chicago), Professor of English and Humanities (1953-1959).

Deszyck, Edward John, Ph.D. (Purdue), Associate Horticulturist, Citrus Experiment Station (1950-1950).

Deuel, James E., M.S.E., Interim Instructor in Industrial Engineering (1959-1959).

Deurloo, Henry William, M.D. (Michigan), University Physician and Assistant Director, Student Health Department (1951-1956).

Devlin, Anna Belle, M.Ed., Teacher, P.K. Yonge Laboratory School (1958-1958).

DeWitt, Robert M., Ph.D. (Michigan), Associate Professor of Biological Sciences and Associate Professor of Biology (1954-1959).

Dickenson, Carrie Elizabeth, M.A., Clothing and Textile Specialist, Agricultural Extension Service, Tallahassee (1941 [52-54] 1954).

Dickey, Ralph Davis, M.S.A., Horticulturist, Agricultural Experiment Station (1927-1955).

Dickinson, Joshua Clifton, Jr., Ph.D. (Florida), Acting Director, Florida State Museum, Curator of Biological Sciences, Florida State Museum, and Associate Professor Biology (1946-1955).

Dickinson, Philip Clark, M.S.E., Research Associate, Engineering and Industrial Experiment Station (1960-1960).

DiEdwardo, Anthony Alexander, Ph.D. (Rutgers), Assistant Nematologist, Agricultural Experiment Station (1960-1960).

Diggs, Ethel Atkinson, M.Ed., Instructor, P.K. Yonge Laboratory School (1955-1960).

diRoccaferrera, Giuseppe Maria Ferrero, Ph.D. (Universita' di Torino), Associate Professor of Management (1958-1959).

Disney, Eunice Maude, M.Ln., Assistant in Library, Health Center Library (1956-1956).

Dixon, James Cannon, Ph.D. (North Carolina), Professor of Psychology (1949-1956).

Dodson, Glenna Ardath, Ed.D. (Florida), Assistant Professor of Education (1952-1959).

Doepke, Dale Kay, M.A., Instructor in English (1960-1960).

Doherty, Herbert Joseph, Ph.D. (North Carolina), Associate Professor of Social Sciences (1953-1959). (On leave 1959-61).

Donaldson, John Colvin, B.S., Assistant Coach (1960-1960).

Donovan, Clement Harold, Ph.D. (North Carolina), Professor of Economics and Head of Department (1940-1952).

Doty, Franklin Ahasuerus, Ph.D. (Iowa), Professor of Social Sciences (1946-1958).

Dougherty, Marshall Harding, B.S., Assistant Chemical Engineer, Citrus Experiment Station (1953-1953).

Douglass, Carol Crews, M.Ed., Teacher, P.K. Yonge Laboratory School (1955-1955). On leave 1959-61).

Dovell, Junius Elmore, Ph.D. (North Carolina), Professor of Political Science and Social Sciences (1946-1955).

Dowd, David Lloyd, Ph.D. (California), Professor of History (1949-1958). (On leave 1960-61).

Dowis, James L., M.S., Research Associate in Psychiatry (1960-1960).

Downey, Paul Milton, Ph.D. (Florida), Associate Professor of Industrial Engineering (1956-1956).

Downing, Rondal Gene, Ph.D. (Illinois), Assistant Professor of Political Science (1958-1960).

Dragstedt, Lester R., Ph.D. (Chicago), M.D. (Rush), Research Professor of Surgery (1959-1959).

Drake, Mayo, M.S. in L.S., Assistant in Library, Health Center Library (1957-1957).

Dresdner, Richard David, Ph.D. (Pennsylvania State), Associate Research Professor, Engineering and Industrial Experiment Station; Associate Research Professor of Chemistry (1953-1953).

Drylie, David, M.E. (Bowman Gray), Assistant in Surgery (1959-1959).

Dubowski, Kurt Max, Ph.D. (Ohio State), Associate Professor of Clinical Chemistry; Chairman, Curriculum in Medical Technology; Director of Clinical Chemistry Laboratories, Teaching Hospital (1958-1958).

Ducharme, Ernest Peter, Ph.D. (Minnesota), Plant Pathologist, Citrus Experiment Station (1946-1956).

Duer, Margaret Dickinson, B.S. in L.S., Assistant Librarian and Head of Circulation Department (1941-1943).

Dunavin, Leonard Sypret, Jr., Ph.D. (Florida), Assistant Agronomist, West Florida Experiment Station (1959-1959).

Duncan, Helen Gene, M.Ed., Interim Instructor of Education (1960-1960).

Dunkle, John Robert, Ph.D. (Clark), Associate Professor of Physical Sciences and Geography (1949-1957).

Dunmire, Raymond Veryl, M.A. in L.S., Assistant in Library, Reference and Bibliography (1960-1960).

Dunn, Edgar Streeter, Ph.D. (Harvard), Professor of Economics (1947 [48-51] 1959).

Dunnam, Francis Eugene, Ph.D. (Louisiana State), Assistant Professor of Physics (1958-1958).

Dunson, William Martin, Superintendent of Conservation Reserve (1939-1939).

DuPraw, Ernest Joseph, Jr., Ph.D. (Columbia), Assistant Professor of Biology (1957-1957). (On leave 1960-61).

Durrance, Charles Livingston, Ed.D. (Columiba), Professor of Education and Head of Secondary Education Department (1940-1960).

Durrance, Kenneth Leroy, M.Ag., Assistant Animal Husbandman, Agricultural Extension Service (1954-1955).

Dusenbury, Winifred Loesch, Ph.D. (Florida), Assistant Professor of English (1955-1959).

Dyer, Donald Ray, Ph.D. (Northwestern), Associate Professor of Geography (1950 [59-60] 1955).

Dykes, Bernard Milton, M.Ed., Instructor in Physical Education (1958-1958).

Eardley, Donald K., M.D. (Arkansas), Assistant in Radiology (1960-1960).

Eastwood, Ralph Allen, Ph.D. (Cornell), Economist in Marketing, Agricultural Extension Service (1957-1957).

Eckdahl, Jack Polk, M.Ed., Assistant Professor of Physical Education (1951-1955).

Eddins, Auther Hamner, Ph.D. (Iowa State), Plant Pathologist in Charge, Potato Investigations Laboratory (1928-1937).

Edmondson, Cornelia, M.S., Assistant Professor of Physical Education (1948 [59-60] 1952).

Edson, Charles Grant, M.S.E., Associate Professor of Engineering Mechanics (1946-1951).

Edson, Seton Norman, M.S., Associate Professor of Soils (1950-1958).

Edwards, George John, B.A., Assistant in Chemistry, Citrus Experiment Station (1953-1953).

Edwards, Henry Coley, B.A., B.S., Assistant Professor of Architecture (1957-1957).

Edwards, Joshua Leroy, M.D. (Tulane), Professor of Pathology and Head of Department, College of Medicine (1955-1955).

Edwards, Richard Archer, Ph.D. (North Carolina), Professor of Geology and Head of Department (1940-1948). (On leave 1958-61).

Edwardson, John Richard, Ph.D. (Harvard), Assistant Professor of Agronomy and Assistant Agronomist, Agricultural Experiment Station (1953-1953).

Eggert, Chester Lee, Ed.D. (Indiana), Professor of Education (1948-1954).

Ehninger, Douglas Wagner, Ph.D. (Ohio State), Professor of Speech (1950-1960).

Ehrmann, Winston Wallace, Ph.D. (Yale), Professor of Sociology (1938-1946). (On leave 1959-61).

Eibner, John R., B.A., Assistant Football Coach (1950-1950).

Eisenberg, Marvin Frank, M.S.E., Interim Instructor of Electrical Engineering (1959-1959).

Eitzman, Donald V., M.D. (Iowa), Assistant Professor of Pediatrics (1958-1960).

Ekstrom, Ralph Edwin, Ph.D. (Florida), Assistant Professor in Engineering Mechanics and Assistant Research Professor, Engineering and Industrial Experiment Station (1957-1960).

Ekwall, Merton L., M.D. (Nebraska), Lecturer in Psychiatry (1959-1959).

Eldridge, Arnold H., B.S., Assistant Director of Employee Personnel Services (1958-1958).

Elgred, Olle Ingemar, D.Sc. (Washington, Mo.), Associate Professor of Electrical Engineering (1956-1956).

Ellenson, Eugene, B.A., Assistant Coach (1960-1960).

Elliott, Herschel Hugh, Ph.D. (Yale), Associate Professor of Logic and Humanities (1955-1960).

Elliott, Larry P., M.D. (Tennessee), Assistant in Pediatrics (1959-1959).

Elmore, William Earl, B.S., Associate Business Manager (1950-1959).

Emmel, Leonard G., M.D. (Pennsylvania), Clinical Associate in Medicine (1959-1959).

Emmel, Mark Wirth, D.V.M. (Iowa State), Professor of Veterinary Science and Veterinarian, Agricultural Experiment Station (1933-1936).

Enneking, William F., M.D. (Wisconsin), Associate Professor of Surgery and Chief of Division of Orthopedics (1959-1959).

Eno, Charles Franklin, Ph.D. (Purdue), Associate Soil Microbiologist, Agricultural Experiment Station (1950-1956).

Enwall, Hayford Octavius, LL.B., Professor of Law (1956-1956).

Eutsler, Roland Byerly, Ph.D. (Pennsylvania), Professor of Economics (1935-1935). (On leave 1959-61).

Everett, Gordon Dale, B.Des, Instructor in Interior Design (1958-1958).

Everett, Paul Harrison, Ph.D. (Purdue), Assisant Soils Chemist, South Florida Field Labortory (1958-1958).

Faaborg, Clarence, B.S.B.A., Captain, Infantry, Assistant Professor of Army Science (1960-1960).

Fabrick, Arthur L., M.S.W., Teaching Assistant in Psychiatry (1959-1959).

Fagen, William Frederick, M.S., Professor of Electrical Engineering and Professor of Nuclear Engineering (1947-1957).

Fain, John Tyree, Ph.D. (Vanderbilt), Professor of English and Logic; Counselor (1947-1951).

Fairing, Robert Lewis, Ph.D. (Pittsburgh), Associate Professor of Citizenship and Community Service Training and Head of Department, General Extension Division (1947-1949).

Farinacci, Andrew, M.S., Research Associate in Psychiatry (1960-1960).

Farber, Erich Alexander, Ph.D. (Iowa), Professor of Mechanical Engineering and Research Professor, Engineering and Industrial Experiment Station (1954-1954).

Farnen, Russell F., D.S.S. (Syracuse), Instructor of Social Sciences (1960-1960).

Farrell, John Richard, LL.B., Assistant Professor of Law (1958-1958).

Farris, Charles Detyens, Ph.D. (Chicago), Associate Professor of Political Science (1958-1958).

Farris, Glenn Aloysius, B.S., Colonel, Infantry, Professor of Military Science and Tactics (1958-1958).

Farris, Mary Lou, M.A., Assistant Professor of Education (1958-1958).

Faulkner, John Samuel, Ph.D. (Ohio State), Assistant Professor of Physics (1959-1959).

Fearney, Edward Maurice, B.Arch., Associate Professor of Architecture (1946-1958). (On leave 1959-61).

Feaster, John Pipkin, Ph.D. (North Carolina), Associate Biochemist, Agricultural Experiment Station (1951-1958).

Feldman, Albert William, Ph.D. (Minnesota), Plant Pathologist, Citrus Experiment Station (1958-1959).

Felix, Glenn Allen, M.A., Senior Resident Counselor, Men's Residence Halls (1954-1954).

Fellers, John D., M.S., Assistant Director of Food Service, Health Center (1958-1958).

Feltovic, Helen Frances, M.A., B.S. in L.S., Assistant Librarian, Technical Processes (1960-1960).

Fenn, Henry Anderson, LL.B., Professor of Law and Dean Emeritus, College of Law (1948-1959).

Ferguson, Sarah Caroline, M.S. in L.S., Librarian, P.K. Yonge Laboratory School (1951 [55-58] 1951).

Ferm, Vergil Harkness, M.D. (Western Reserve), Ph.D. (Wisconsin), Associate Professor of Anatomy, College of Medicine (1957-1957).

Fernandez, Pedro Villa, M.A., Professor of Spanish (1947-1951).

Field, Robert C., M.D. (Baylor), Assistant in Surgery (1959-1959).

Field, Willard Earl, B.S., Major, Transportation Corps, Assistant Professor of Army Science and Tactics (1959-1959).

Fifield, Willard Merwin, M.S., Provost for Agriculture (1932-1955).

Fiore, Sylvestre, Ph.D. (Cologne), Assistant Professor of Romance Languages (1959-1959).

Fisher, Francine E., M.S., Assistant Plant Pathologist, Citrus Experiment Station, U.S.D.A. (1946-1946).

Fishler, Donald William, M.S., Associate Agronomist, Everglades Experiment Station, U.S.D.A. (1958-1958).

Fiskell, John Garth Austin, Ph.D. (McGill), Associate Professor of Soils and Associate Biochemist, Agricultural Experiment Station (1951-1956).

Flanigan, Frank McChesney, M.S.M.E., Associate Professor of Mechanical Engineering and Associate Research Professor, Engineering and Industrial Experiment Station (1947-1954).

Fleet, Harvey Mayer, M.D. (Vanderbilt), Assistant in Medicine (1959-1959).

Fleming, Bill Alexander, B.A., Assistant Director of Alumni Affairs (1957-1957).

Fletcher, John C., M.D. (Emory), Clinical Associate in Surgery (1960-1960).

Flowers, John Wilson, Ph.D. (Virginia), Professor of Physics (1947-1953).

Fluhr, Marion Lorraine, M.Ed., Interim Teacher, P.K. Yonge Laboratory School (1960-1960).

Fogle, Stephen Francis, Ph.D. (Illinois), Professor of English (1946-1957).

Foote, Perry Albert, Ph.D. (Wisconsin), Dean of the College of Pharmacy and Professor of Pharmaceutical Chemistry; Director, Bureau of Professional Relations (1928-1949).

Forbes, Richard B., Ph.D. (Pennsylvania State), Assistant Soils Chemist, Central Florida Experiment Station (1948 [53-56] 1948).

Ford, Ernest Sidney, Ph.D. (Chicago), Professor of Botany (1947-1949).

Ford, Harry W., Ph.D. (Ohio State), Associate Horticulturist, Citrus Experiment Station (1950-1956).

Forsee, William Thomas, Jr., Ph.D. (Florida), Chemist in Charge, Everglades Experiment Station (1937-1952).

Forsman, Marion Edwin, Ph.D. (Iowa State), Professor of Electrical Engineering; Assistant Director, Engineering and Industrial Experiment Station (1955-1955).

Foster, Charles Richard, Ed.D. (Harvard), Professor of Education and Assistant Dean, College of Education (1947-1955).

Fouquette, Martin John, Jr., Ph.D. (Texas), Interim Assistant Professor of Biology (1959-1959).

Fouts, Everett Lincoln, Ph.D. (Iowa State), Professor of Dairy Science and Head of Department, College of Agriculture; Dairy Technologist and Head of Department, Agricultural Experiment Station (1940-1949).

Fox, George Gillespie, Ph.D. (Princeton), Professor of English (1939 [50-58] 1945).

Fox, Lauretta Ewing, Ph.D. (Illinois), Associate Professor of Pharmacognosy and Pharmacology (1949-1955).

Fox, William McNair, Ph.D. (Ohio State), Associate Professor of Industrial Relations and Management (1954-1957).

Francis, Ella Stone, M.A. in L.S., Instructor-Librarian, P.K. Yonge Laboratory School (1955-1960).

Franks, Lee Emery, M.S., Assistant Professor of Journalism and Communications and Producer-Director, Television Station WUFT (1954-1954).

Frazer, Percy Warner, M.F., Associate Professor of Forest Management, School of Forestry; Associate Forester, Agricultural Experiment Station (1937-1949).

Frazer, William Johnson, Jr., M.A., Assistant Professor of Finance (1957-1957).

Frederick, William, B.E.E., Assistant Research Professor, Engineering and Industrial Experiment Station (1953-1953).

Freeland, James Jackson, LL.B., Assistant Professor of Law (1957-1957). (On leave 1960-61).

Freeman, George Roland, M.S.A., Superintendent of Field Operations, Agricultural Experiment Station (1950-1950).

Freeman, Thomas Edward, Ph.D. (Louisiana State), Assistant Plant Pathologist, Agricultural Experiment Station (1956-1956).

Freeman, Watson Louis, B.M.E., Instructor in Mechanical Engineering (1953-1957).

Fregly, Melvin James, Ph.D. (Rochester), Associate Professor of Physiology, College of Medicine (1956-1960).

French, Rowland Barnes, Ph.D. (Iowa), Biochemist, Agricultural Experiment Station (1935-1943).

French, Warren Graham, Ph.D. (Texas), Assistant Professor of English and Logic (1958-1958).

Fried, Melvin, Ph.D. (Yale), Assistant Professor of Biochemistry, College of Medicine (1956-1956).

Fristoe, Charles Wesley, Ph.D. (Illinois), Associate Professor of Economics (1950-1955).

Fritz, Charles E., M.S., Research Associate in Psychiatry (1959-1960).

Fritz, George J., Ph.D. (Purdue), Assistant Plant Physiologist, Agricultural Experiment Station (1960-1960).

Fry, Richard M., M.D. (Temple), Instructor in Surgery (1960-1960).

Fuller, David Down, M.Ed., Baseball Coach and Assistant Football Coach (1946-1946).

Furman, Thomas deSaussure, M.S.C.E., Associate Professor of Civil Engineering and Associate Research Professor, Engineering and Industrial Experiment Station (1951-1953).

Gabbert, John Houston, B.A., Major, Assistant Professor of Air Science (1959-1959).

Gabrielson, Gloria Evelyn, M.Ed., Teacher, P.K. Yonge Laboratory School (1958-1958).

Gaddum, Jerry William, Ph.D. (Missouri), Associate Professor of Mathematics (1957-1957).

Gager, William Atkins, Ph.D. (Peabody), Professor of Mathematics (1942-1949).

Gaitanis, Louis Andrew, LL.B. M.A., Associate Professor of Business Law (1946-1951).

Gamble, Glenn W., Ed.D. (Pennsylvania State), Assistant Professor of Education, P.K. Yonge Laboratory School (1959-1959).

Gammon, Nathan, Jr., (Ohio State), Soils Chemist, Agricultural Experiment Station (1946-1946).

Gano, Ovid Raymond, B.E.E., Assistant Research Professor, Engineering and Industrial Experiment Station (1944 [45-47; 49-51] 1951).

Garlington, James Conway, M.D. (Yale), Assistant in Surgery (1960-1960).

Garrett, Richard Emil, B.S.M.E., Instructor in Engineering Graphics (1959-1959).

Garris, Edward Walter, Ph.D. (Peabody), D.Sc. (Clemson), Professor of Education and Head of Agricultural Education (1927-1927).

Garvin, Jewel Margaret, B.A. in L.S., Assistant in Library, Health Center Library (1960-1960).

Gaspard, Nancy June, B.S., Instructor in Nursing (1959-1959).

Gay, James M., B.A.J., Head, Sports Publicity (1951 [59-60] 1960).

Gaynor, Thomas Edward, Engineer of Mines, Teaching Associate in Civil Engineering (1960-1960).

Gehan, Frederick Edward, M.A.E., Associate Professor of English (1946-1955).

Geltz, Charles Gottlieb, M.S.F., Professor of Silviculture and Forester (1946-1946).

Gemmer, Eugene W., M.F., Assistant Professor of Forestry, State Forest Ranger School (1949-1949).

Gendron, Mary Spiers, M.E., Teacher, P.K. Yonge Laboratory School (1958-1958).

Gennaro, Joseph Francis, Ph.D. (Pittsburgh), Assistant Professor of Anatomy, College of Medicine (1956-1956).

Gentry, Robert Vance, M.S., Instructor in Mathematics (1959-1959).

Genung, William Gordon, M.S., Associate Entomologist, Everglades Experiment Station (1949-1958).

Georg, James Gonder, Assistant Meteorologist, Weather Forecasting Service U.S.W.B. (1952-1952).

George, Theodore Samuel, Ph.D. (Duke), Professor of Electrical Engineering and Research Professor, Engineering and Industrial Experiment Station (1938 [45-56] 1956).

Geraldson, Carroll Morton, Ph.D. (Wisconsin), Associate Soils Chemist, Gulf Coast Experiment Station (1951-1956).

Gerber, John Francis, Ph.D. (Missouri), Assistant Climatologist, Agricultural Experiment Station (1960-1960).

Gerritsen, Franciscus, Diploma of Civil-Engineer (Holland), Associate Research Professor, Engineering and Industrial Experiment Station (1956-1958).

Gessner, Ira H., M.D. (Vermont), Assistant in Pediatrics (1960-1960).

Getzen, Samuel Pace, Jr., Director, Campus Shop and Bookstore (1949-1958).

Gibbs, Robert Coleman, M.S.L.S., Assistant in Library, Acquisitions (1960-1960).

Gifford, George Edwin, Ph.D. (Minnesota), Assistant Professor of Microbiology, College of Medicine (1957-1957).

Gilbraith, Kenneth Marshburn, M.S.A., Vegetable Marketing Specialist, Agricultural Extension Service (1957-1958).

Gilcreas, Frank Wellington, B.A., Professor of Sanitary Science and Research Professor, Engineering and Industrial Experiment Station (1955-1955).

Giles, Howard Coleman, Ph.D. (Purdue), Livestock Marketing Specialist, Agricultural Extension Service (1959-1959).

Gilliland, Charles Herbert, M.D. (Iowa), Lecturer in Obstetrics and Gynecology (1959-1959).

Gilstrap, Granville W., B.F.A., Instructor in Journalism and Communications and TV Producer-Director, Television Station WUFT (1957-1957).

Ginn, William M., Jr., M.D. (North Carolina), Assistant in Medicine (1959-1960).

Glen, Robert S., M.D. (Stanford), Assistant Professor of Psychiatry (1958-1958).

Glick, Edwin Leonard, M.M., Instructor in Journalism and Communications, and Program Director, Radio Production Center (1959-1959).

Glick, Lee E., M.A., Interim Instructor in Economics (1958-1958).

Glicksberg, Mandell, LL.M., Professor of Law (1953-1959).

Goddard, Ray Everett, Ph.D. (Texas A&M), Assistant Professor of Forest Genetics and Assistant Geneticist (1959-1959).

Godwin, Grant Murray, M.Ag., Associate State Boys' 4-H Club Agent, Agricultural Extension Service (1952-1959).

Godwin, Marshall Reid, Ph.D. (Cornell), Professor of Agricultural Economics and Marketing Economist, Agricultural Experiment Station (1950-1958).

Goffman, Irving Jay, Ph.D. (Duke), Assistant Professor of Economics (1959-1959).

Goggin, John M., Ph.D. (Yale), Professor of Sociology and Anthropology (1948-1960).

Goin, Coleman Jett, Ph.D. (Florida), Professor of Biological Sciences and Professor of Biology (1942-1956).

Gomez, Osborne Lorraine, M.A., Assistant Professor and Head, Department of General Information and Service, General Extension Division (1953-1959).

Gonzalez, Juan Ortas, M.S.Ch.E., Assistant Professor of Mechanical Engineering and Assistant Research Professor, Engineering and Industrial Experiment Station (1952-1956).

Goodman, Donald Charles, Ph.D. (Illinois), Associate Professor of Anatomy, College of Medicine (1956-1959).

Goodwin, Frank, Ph.D. (Pennsylvania), Professor of Marketing (1947-1949).

Gordon Ira Jay, Ed.D. (Columbia), Professor of Education (1956-1960).

Goshorn, Glenn Gilbert, B.S., Assistant in Agricultural Economics, Agricultural Experiment Station (1960-1960).

Gould, Robert William, B.M.E., Assistant in Research, Engineering and Industrial Experiment Station (1959-1959).

Gouwens, Willis E., Jr., M.D. (Chicago), Assistant in Surgery (1960-1960).

Grady, Eunice, M.S., Assistant to State Home Demonstration Agent in Trainee Work, Agricultural Extension Service, Tallahassee (1934-1953).

Graeffe, Arnold Didier, Ph.D. (Berlin), Associate Professor of Humanities (1948-1948).

Gragger, Luanne Thornton, M.A.L.S., Assistant in Library, Education Library (1960-1960).

Graham, Henry R., M.D. (Cornell), Clinical Associate in Medicine (1959-1959).

Graham, Raymond Wilfred, B.Arch., Assistant Professor of Architecture (1957-1957).

Graham, Thomas Aloysius, Jr., B.S., Colonel, Artillery, Assistant Professor of Army Science and Tactics (1959-1959).

Gramling, Lea Gene, Ph.D. (Florida), Professor of Pharmaceutical Chemistry and Head of Department (1946-1959).

Grand, John Louis Rochon, M.Arch., Professor of Architecture (1937-1947).

Grantham, William Jackson, Jr., M.S.E., Instruction in Civil Engineering (1959-1959).

Gravely, Lucius Brockenborough, M.S.B., University Cashier (1951-1951).

Gravenstein, Joachim S., M.D. (Harvard), Assistant Professor of Surgery and Chief of the Division of Anesthesia (1958-1958).

Graves, John Lowell, Ph.D. (Chicago), Assistant Professor of Biochemistry (1958-1960).

Graves, Samuel Ray, B.A., Head Football Coach and Director of Athletics (1960-1960).

Gray, Charles Farrell, M.A., M.L., Interim Instructor in English (1958-1960).

Gray, Leon Archibald, M.A.E., Assistant Professor of Education (1941-1949).

Green, Eleanor Kuhlman, Ed.D. (Florida), Associate Professor of Education (1940-1957).

Green, James Harold, M.S., Research Associate in Pathology (1960-1960).

Green, James Russelll, Jr., M.D. (Virginia), Instructor in Medicine (1959-1960).

Green, John Frederick, B.S., Assistant Coach (1960-1960).

Green, Victor Eugene, Ph.D. (Purdue), Associate Agronomist, Everglades Experiment Station (1951-1956).

Greene, Calvin Clay, Jr., M.S.M.E., Director of Plant and Grounds and Campus Engineer (1950-1950).

Greene, Robert Edward Lee, Ph.D. (Cornell), Professor of Agricultural Economics; Agricultural Economist, Agricultural Experiment Station (1948-1948).

Greenman, John Roosevelt, LL.B., B.S.A., Professor of Agricultural Economics and Agricultural Economist, Agricultural Experiment Station (1939 [40-45] 1945).

Greer, Allen Wilkinson, M.A., Instructor in English (1952 [54-55; 57-58] 1952).

Gregg, James Henderson, Ph.D. (Princeton), Associate Professor of Biology (1951-1956).

Gregg, Robert, M.E., LL.D. (Tusculum), (Doctor of Laws [Honorary] Howard College), Consultant in Industrial Engineering (1951-1951).

Greiner, John William, Ph.D. (Florida), Assistant Pofessor of Physical Sciences (1950-1954).

Greville, Nicholas R., M.D. (Middlesex), Assistant Professor of Surgery (1959-1959).

Grey, John Benjamin, Jr., B.S.B.A., Interim Instructor of Marketing (1960-1960).

Grierson, William, Ph. D. (Cornell), Associate Chemist, Citrus Experiment Station (1952-1956).

Griffith, John Edward, Ph.D. (Pennsylvania State), Assistant Professor of Engineering Mechanics (1958-1958).

Griffith, Mildred Mason, Ph.D. (California), Associate Professor of Biological Sciences and Associate Professor of Botany (1950-1956).

Griggs, Harry Hubert, M.A., Assistant Professor of Journalism and Communications (1958-1958).

Grigsgy, Mac G., B.A., Director of Records and Student Aid Counselor (1948-1958).

Grigsby, Shaw Earl, Ph.D. (Cornell), Associate Professor of Agronomy, College of Agriculture; Training Specialist, Agricultural Extension Service; Associate Professor of Sociology (1953-1960).

Grinter, Linton E., Ph.D. (Illinois), Dean of the Graduate School; Director of Research and Research Professor (1952-1952).

Grissom, Eugene Edward, M.F.A., Assistant Professor of Art (1953-1953).

Grizzell, William G., B.I.E., Assistant in Agricultural Engineering, Agricultural Experiment Station, U.S.D.A., (1959-1959).

Grobman, Arnold Brams, Ph.D. (Rochester), Director, Florida State Museum; Associate Professor of Biology (1946-1952). (On leave 1959-61).

Grodsky, May Roman, B.A., Assistant in Library, Documents (1951-1951).

GroeneveldMeijer, Johannes Wiardus, Dipl. Arch., E.T.H., Assistant Professor of Architecture (1955-1955).

Gropp, Armin Henry, Ph.D. (Oregon), Professor of Chemistry and Assistant Dean, College of Arts and Sciences (1947-1959).

Groth, John Henry, Ph.D. (Washington), Professor of Humanities (1946-1946).

Guertin, Wilson H., Ph.D. (Michigan), Associate Research Professor in Nursing and Associate Professor of Psychology (1960-1960).

Guistwhite, Jack Cole, B.S.B.A., Assistant Registrar, Machine Records, and Instructor in Economics (1947-1956).

Guiteras, George Gustavo, M.D. (Pennsylvania), University Physician (1949-1949).

Gull, Dwain D., M.S. (Cornell), Assistant Horticulturist, Agricultural Experiment Station (1958-1958).

Gutierrez, Michael, M.S., Teacher, P.K. Yonge Laboratory School (1960-1960).

Guy, Albert Glasgow, D.Sc. (Carnegie Tech.), Research Professor, Engineering and Industrial Experiment Station (1960-1960).

Guzman, Victor L., Ph.D. (Cornell), Associate Horticulturist, Everglades Experiment Station (1952 [56-58] 1958).

Haber, Francis Colin, Ph.D. (Johns Hopkins), Assistant Professor of History (1958-1958).

Hadley, Rufus Tilmon, B.S., Supervisor of Machine Records, Finance and Accounting (1960-1960).

Hadlock, Edwin Harold, Ph.D. (Cornell), Professor of Mathematics (1948-1953).

Hady, Frank Thomas, B.A., Agricultural Economist, Agricultural Experiment Station, U.S.D.A. (1959-1959).

Haigh, Paul Joseph, M.A., Research Assistant in Physics (1958-1958).

Haines, Aleyne Clayton, Ed.D. (Illinois), Associate Professor of Education (1952-1952)

Haines, Charles Edward, Ph.D. (Florida), Assistant Animal Husbandman, Everglades Experiment Station (1957-1958).

Haines, Lewis Francis, Ph.D. (Michigan), Professor of Humanities; Director, University of Florida Press (1941-1950).

Halcomb, Roberta Verne, M.S., Home Improvement Specialist, Agricultural Extension Service, Tallahasseee (1959-1959).

Hale, James P., M.S., Assistant Professor of Music (1957-1959).

Hale, Lester Leonard, Ph.D. (Louisiana State), Dean of Student Affairs and Professor of Speech (1935-1960).

Hall, Chesley Barker, Ph.D. (Cornell), Associate Horticulturist, Agricultural Experiment Station (1950-1956).

Hall, Earl R., Ed.D. (Columbia), Interim Assistant Professor and Field Representative, General Extension Division (1960-1960).

Hallam, Thomas Bancroft, B.S., Assistant in Entomology-Pathology, Citrus Experiment Station (1954-1954).

Halperin, Don Akiba, M.S.A.E., Associate Professor of Building Construction (1953-1958).

Halsey, Lawrence Henry, M.S.A., Assistant Horticulturist, Agricultural Experiment Station (1948-1948).

Hamacher, Howard Brockman, M.Arch., Assistant Professor of Architecture (1956-1956).

Hamilton, Henry Glenn, Ph.D. (Cornell), Professor of Agricultural Economics and Head of Department; Agricultural Economist and Head of Department, Agricultural Experiment Station; Agricultural Economist and Head of Department, Agricultural Extension Service (1923-1950).

Hamilton, Jefferson Merritt, B.S.Arch., Consulting Architect (1947-1948).

Hammond, Eugene Ashby, Ph.D. (North Carolina), Professor of Social Sciences; Counselor (1946-1955).

Hammond, Katherine Ann, M.A., Assistant in Library, Circulation (1960-1960).

Hammond, Luther Carlisle, Ph.D. (Iowa State), Associate Professor of Soils and Associate Soils Physicist, Agricultural Experiment Station (1950-1955).

Hampton, Isaac Paul, Jr., Ed.D. (Missouri), Assistant Professor of Education and Acting Head, Industrial Arts Department, College of Education (1959-1960).

Hampton, Richard John, M.S., Interim Associate Professor of Pharmacy (1959-1959).

Han, Ru-Jen Lee, M.S., Research Assistant, Pharmaceutical Chemistry (1958-1958).

Hancock, Robert Edgar, B.A., Teaching Assistant in Publications and News Education, General Extension Division (1958-1958).

Haney, John Richard, B.A., Instructor in Journalism and Communications and TV Producer-Director, Television Station WUFT (1959-1959).

Hanks, Robert William, Ph.D. (Chicago), Assistant Plant Physiologist, Citrus Experiment Station (1955-1955).

Hanna, Paul Lamont, Ph.D. (Stanford), Professor of Social Sciences (1939-1946).

Hannon, Chancellor Irving, Ph.D. (Cornell), Assistant Nematologist, Citrus Experiment Station (1956-1956).

Hannum, John Ballard, M.Ed., Teacher, P.K. Yonge Laboratory School (1958-1958).

Hanrahan, James B., M.D. (Pittsburgh), Instructor in Pathology and Chief Resident (1960-1960).

Hanrahan, Robert Joseph, Ph.D. (Wisconsin), Assistant Professor of Chemistry (1958-1958).

Harkins, William Gregory, M.A. in L.S., Associate Director of Libraries and Associate Professor of Library Science (1957-1957).

Harkness, Roy Wendell, Ph.D. (California), Associate Chemist, Sub-Tropical Experiment Station (1945-1955).

Harlan, William Edwards, M.A.E., Assistant Professor of Physical Education and Assistant Swimming Coach (1949-1954).

Harlow, Justin Edwards, Jr., Ph.D. (Florida), Associate Professor of Psychology; Head, University Counseling Center (1948-1954).

Harms, Robert Henry, Ph.D. (Texas A&M), Associate Professor of Poultry Husbandry and Associate Poultry Husbandman, Agricultural Experiment Station (1957-1957).

Harper, James Robinson, M.D. (North Carolina), Intern in Medicine (1960-1960).

Harrell, George Thomas, M.D. (Duke), Dean of the College of Medicine and Professor of Medicine; Chief of Staff of Hospital and Clinics (1954-1954).

Harris, Emmett DeWitt, Jr., Ph.D. (Cornell), Assistant Entomologist, Everglades Experiment Station (1956-1956).

Harris, Henry Clayton, Ph.D. (Cornell), Agronomist, Agricultural Experiment Station (1943-1947).

Harris, Ruth Elisabeth, M.S.H.E., Family Life Specialist, Agricultural Extension Service, Tallahassee (1958-1958).

Harrison, Dalton Sidney, M.S.A., Assistant Agricultural Engineer, Agricultural Extension Service (1953-1953).

Harrison, John A., Ph.D. (California), Professor of History (1949-1958).

Hart, Donald John, Ph.D. (Wisconsin), Dean of the College of Business Administration (1956-1956).

Hart, Thomas Alonzo Edward, Ph.D. (Michigan), Professor of Humanities (1946-1954).

Hartley, Robert Hayward, B.E.E., Assistant in Research, Nuclear Engineering (1960-1960).

Hartmann, Frederick H., Ph.D. (Princeton), Professor of Political Science (1948-1956).

Hass, Charles Glen, Ed.D. (Columbia), Professor of Education and Interim Director of P. K. Yonge Laboratory School (1958-1960).

Haupt, Charles S., B.S.P., Associate Director, Bureau of Professional Relations, College of Pharmacy (1950-1950).

Hawkins, John Erskine, Ph.D. (Pennsylvania), Professor of Chemistry; Director, Naval Stores Research (1935-1944).

Hayes, Carol Virginia, B.S., Instructor in Nursing (1957-1957).

Hayes, Francis Clement, Ph.D. (North Carolina), Associate Professor of Spanish (1946-1946).

Haygood, Nancy A., B.S., Assistant Director of Finance and Accounting (1958-1958).

Haynes, Hal Henry, Jr., Captain, Assistant Professor of Air Science (1958-1958).

Haynie, John Dale, B.S.A., Apiculturist, Agricultural Extension Service (1947-1947).

Hayslip, Norman Calvin, B.S.A., Entomologist, Everglades Experiment Station (1943 [45-46] 1956).

Hayward, Frederick Warren, Ph.D. (Cornell), Associate Biochemist, Citrus Experiment Station (1956-1956).

Hebel, Roy B., B.A., Captain, Assistant Professor of Air Science (1960-1960).

Hebert, Paul R., B.S., Captain, Assistant Professor of Air Science (1959-1959).

Heidenheimer, Arnold J., Ph.D. (London School of Economics and Political Science), Interim Assistant Professor of Political Science (1960-1960).

Heine, M. Wayne, M.D. (Duke), Assistant in Obstetrics and Gynecology (1959-1959).

Hendershott, Charles Henry, Jr., Ph.D. (North Carolina State), Assistant Plant Physiologist, Citrus Experiment Station (1959-1959).

Henderson, Frank William, M.D. (Jefferson), Clinical Associate in Medicine (1959-1959).

Henderson, Joseph Russell, M.S.A., Agronomist, Agricultural Extension Service (1935-1947).

Hendricks, Margaret Ann, B.D., Program Director, Florida Union (1959-1959).

Hendrickson, Ellwood Robert, Ph.D. (Wisconsin), Professor of Civil Engineering and Research Professor, Engineering and Industrial Experiment Station (1950-1958).

Hendrickson, Rudolph, B.S., Associate Chemist, Citrus Experiment Station (1947-1958).

Henley, Atha Louise, M.L.S., Assistant in Library, Reference and Bibliography (1960-1960).

Henry, James Farthing, M.D. (Washington, Mo.), University Physician (1959-1959).

Henry, John B., M.D. (Rochester), Assistant Professor of Pathology and Director of Blood Bank and Laboratories (1960-1960).

Henschen, Thomas L., M.A., Interim Resident Counselor, Men's Residence Halls (1960-1960).

Hensel, Dale Robert, Ph.D. (Rutgers), Assistant Soils Chemist, Potato Investigation Laboratory (1960-1960).

Hentges, James Franklin, Jr., Ph.D. (Wisconsin), Associate Professor of Animal Husbandry and Associate Animal Husbandman, Agricultural Experiment Station (1952-1956).

Herbert, Carl M., M.D. (Johns Hopkins), Lecturer in Obstetrics and Gynecology (1959-1959).

Herbert, John Henry, M.S.A., Assistant Soil Conservationist, Agricultural Extension Service (1954-1954).

Herbert, Thomas Walter, Ph.D. (Princeton), Professor of English (1946-1951).

Herman, Arthur Ludwig, M.A., Instructor in Humanities (1957-1957). (On leave 1960-61).

Herndon, Thomas Glenn, M.S.F., Associate Farm Forester, Agricultural Extension Service (1949-1957).

Hertzler, Elmer Afton, M.S., Interim Associate Professor of Electrical Engineering (1958-1958).

Herzberg, Mendel, Ph.D. (California), Associate Professor of Bacteriology (1954-1959).

Hester, Janice Parham, B.S. in L.S., Assistant in Library, Technical Processes (1927 [30-46] 1946).

Hester, John Donald, M.P.H., Interim Instructor in Physical Education (1957-1957).

Hetrick, Lawrence Andrew, Ph.D. (Ohio State), Professor of Entomology (1947-1959).

Hiatt, Leland Wilbur, Director of Alumni Affairs (1952-1952).

Hickman, Jack W., M.S., Interim Instructor in Economics (1959-1959).

Hicks, Dora Adeline, Ed.D. (Texas), Professor of Health Education (1948-1955).

Hildebrandt, Richard John, M.D. (Duke), Assistant Resident in Obstetrics and Gynecology (1960-1960).

Hill, Clifton Carr, M.S., Associate Professor of Engineering Mechanics (1947-1947).

Hill, Elmer Carl, B.S.A., Assistant Bacteriologist, Citrus Experiment Station (1951-1951).

Hill, Hugh Meighan, M.D. (Johns Hopkins), Assistant Professor of Obstetrics and Gynecology (1959-1959).

Hill, James Alton, M.D. (North Carolina), Senior Assistant Resident in Psychiatry (1960-1960).

Hill, Jeraldine, M.Ed., Teacher, P.K. Yonge Laboratory School (1959-1959).

Hill, Ned Webster, Jr., M.S., Interim Instructor in Mathematics (1960-1960).

Hilliard, Frances Pauline, Ed.D. (Columbia), Professor of Education and Head, Elementary Education (1950-1960).

Hinckley, Elmer Dumond, Ph.D. (Chicago), Professor of Psychology; Associate, University Counseling Center (1925-1937).

Hinely, Reginald Terry, M.Ed., Teacher, P.K. Yonge Laboratory School (1960-1960).

Hines, Vynce Albert, Ed.D. (Illinois), Professor of Education (1947-1955).

Hinkley, Henry Robert, Assistant Director of Plant and Grounds, Health Center (1955-1955).

Hinson, Kuell, Ph.D. (Wisconsin), Assistant Agronomist, U.S.D.A., Agricultural Experiment Station (1955-1955).

Hintermister, John Henry, B.S., Assistant Professor of Management (1953-1958).

Hipp, Jacob Edward, LL.B., Assistant Professor of Insurance (1955-1957).

Hixon, Imogene, B.S. in L.S., Assistant Librarian, Technical Processes (1949-1952).

Hoag, Jerry Barton, Ph.D. (Chicago), Professor of Physics (1960-1960).

Hodges, Elver Myron, Ph.D. (Rutgers), Agronomist, Range Cattle Experiment Station (1941-1949).

Hodgman, Suzanne, M.L.S., M.A., Assistant Librarian, Acquisitions (1960-1960).

Hodges, Vernon S., M.Arch., Assistant Professor of Architecture (1954-1954).

Hoffman, Glenn John, Ph.D. (Michigan), Assistant Professor of Social Sciences; Counselor (1957-1957).

Hoffmann, Margaret E. Waid, M.D. (Michigan), Instructor in Pathology (1958-1958).

Hoffmann, Robert G., Ph.D. (Michigan), Statistician, Health Center and Assistant Research Professor, Statistical Laboratory (1957-1958).

Holbrook, Hollis Howard, B.F.A., Professor of Art (1938-1948).

Holden, Edmund Stanley, Ph.D. (Northwestern), Assistant Professor of English (1957-1957).

Holko, John Michael, Jr., B.S., Captain, Quartermaster Corps, Assistant Professor of Army Science (1960-1960).

Holley, Clifford, M.S., Interim Assistant Professor of Physical Sciences (1958-1958).

Hollis, Robert Parker, B.S., Acting Head, Department of Industrial Engineering (1958-1959).

Holmes, Elwyn Spruiell, M.E., Assistant Professor of Agricultural Engineering and Assistant Agricultural Engineer, Agricultural Experiment Station (1956-1956).

Holstein, Helen Davis, M.A., District Home Demonstration Agent, Agricultural Extension Service, Tallahassee (1952-1955).

Holtsbert, Harold Isidor, B.S.A., Assistant in Entomology-Pathology, Citrus Experiment Station (1950-1950).

Hood, Claude Ian, M.B., Ch.B. (Liverpool), Assistant Professor of Pathology, College of Medicine (1956-1957).

Hooser, Hobart, M.A., Administrative Assistant, Division of Intercollegiate Athletics (1950-1960).

Hoover, John Wesley, M.S.A.E., Associate Professor of Aeronautical Engineering (1951-1951).

Hopkins, Edwin Fraser, Ph.D. (Cornell), Plant Physiologist, Citrus Experiment Station (1951-1957).

Horn, Granville Clide, Ph.D. (Florida), Associate Professor of Turf Technology and Associate Turf Technologist, Agricultural Extension Service (1956-1957).

Horne, Edward Porter, Ph.D. (State Univ. of Iowa), Associate Professor of Psychology (1949-1949).

Horner, Earl Stewart, Ph.D. (Cornell), Associate Professor of Agronomy and Associate Agronomist, Agricultural Experiment Station (1950-1956).

Hortenstine, Charles C., Ph.D. (Florida), Assistant Soils Chemist, Everglades Experiment Station (1959-1959).

Hoskins, Wilbur Jolliffe, M.S., Teacher, P.K. Yonge Laboratory School (1958-1958).

Howard, William M., Ph.D. (Wisconsin), Professor of Insurance (1955-1957).

Hoyt, Brooks Pettingill, LL.B., Assistant Professor of Law (1957-1957). (On leave 1960-61).

Hrubecky, Henry Francis, Ph.D. (Iowa State), Associate Professor of Engineering Mechanics (1955-1955).

Huang, Tzu Chuen, Ph.D. (Illinois), Associate Professor of Engineering Mechanics (1956-1956).

Hubener, Louis F., M.D. (Arkansas), Clinical Associate in Medicine (1959-1959).

Huber, Joseph Richard, M.Ed., Teacher, P.K. Yonge Laboratory School (1958-1958).

Hubert, Michael, Ph.D. (Russian University, Prague), Assistant Professor of Russian (1960-1960).

Huckaba, Charles Edwin, Ph.D. (Cincinnati), Associate Professor of Chemical Engineering and Associate Research Professor, Engineering and Industrial Experiment Station (1955-1955).

Huffman, Jacob Brainard, D.F. (Duke), Associate Professor of Forest Products Technology and Associate Forester (1952-1957).

Huggart, Richard Leigh, B.S., Assistant Chemist, Citrus Experiment Station (1951-1951).

Hughes, Lawrence Edwin, M.S., Associate Meteorologist, Weather Forecasting Service, U.S.W.B. (1957-1957).

Hughlett, William S., M.D. (Emory), Fellow in Psychiatry (1960-1960).

Hull, Fred Harold, Ph.D. (Iowa State), Agronomist and Head of Department, Agricultural Experiment Station (1927-1948).

Humphrey, Charles R., Ph.D. (Texas), Interim Instructor in Humanities (1960-1960).

Humphreys, J. Anthony, Ph.D. (Chicago), Interim Professor of Education (1960-1960).

Humphreys, Thomas Elder, Ph.D. (Pennsylvania), Associate Biochemist, Agricultural Experiment Station (1955-1959).

Hunter, George William, III, Ph.D. (Illinois), Lecturer in Microbiology and Biological Sciences (1956-1957).

Hunziker, Rupert Rudolph, Ph.D. (Iowa State), Assistant Soils Chemist, Citrus Experiment Station (1956-1956).

Hurff, George Brian, Ph.D. (Pennsylvania), Director, Bureau of Economic and Business Research and Research Professor (1948-1949).

Husa, William John, Ph.D. (Iowa), Professor of Pharmacy and Head of Department (1923-1923).

Hussey, Roland Fountain, D.Sc. (Harvard), Professor of Biological Sciences, Professor of Biology (1953-1960).

Hutcherson, William Robert, Ph.D. (Cornell), Professor of Mathematics (1949-1949).

Hutton, Curtis Evan, Ph.D. (Iowa State), Vice Director in Charge, West Florida Experiment Station (1949-1949).

Ingle, Kelsey Hudleson, M.A., Instructor, P.K. Yonge Laboratory School (1945-1952).

Ingram James M., M.D. (Duke), Lecturer in Obstetrics and Gynecology (1959-1959).

Ingram, William, Jr., M.D. (Georgia), Lecturer in Psychiatry (1959-1959).

Irwin, Edward Eugene, M.A., Instructor in English (1959-1959).

Jackson, Curtis Rukes, Ph.D. (Florida), Assistant Plant Pathologist, Gulf Coast Experiment Station (1958-1958).

Jackson, Elmo Louis, Ph.D. (Harvard), Professor of Economics (1946-1956).

Jacunski, Edward Walter, M.A.E., Associate Professor of Engineering Graphics and Head of Department (1947-1957).

Jamison, Frank Stover, Ph.D. (Cornell), Professor of Vegetable Crops and Head of Department; Horticulturist and Head of Department, Agricultural Experiment Station; Vegetable Crops Specialist and Head of Department, Agricultural Extension Service (1934-1956).

Jantzen, Alice Catherine, M.S., Associate Professor and Curriculum Chairman, Occupational Therapy (1958-1958).

Jefferies, Mildred B., M.P.H., Assistant Professor of Bacteriology (1953-1953).

Jelks, Allen N., M.D. (Duke), Instructor in Pediatrics (1959-1960).

Jelks, Mary Larson, M.D. (Nebraska), Research Associate in Pediatrics (1959-1960).

Jennings, John Francis, Jr., Ph.B., Major, Corps of Engineers, Assistant Professor of Army Science (1960-1960).

Jennings, Robert Benjamin, LL.B., Assistant in Administration (1957-1959).

Jensen, Anthony Svend, B.S., Assistant Farm Forester, Agricultural Extension Service (1953-1953).

Jensen, Norman, B.A., Interim Instructor in Architecture (1960-1960).

Jerit, Ronald George, M.A., Instructor in Speech (1960-1960).

Johns, Roe Lyell, Ph.D. (Columbia), Professor of Education and Head of Administration and Field Services (1946-1948).

Johnson, Carl Henry, Ph.D. (Washington), Professor of Pharmacognosy and Pharmacology; Director, Medicinal Plant Gardens (1939-1954).

Johnson, Elmer, Ph.D. (California), Instructor in Anatomy (1960-1960).

Johnson, Eloise, M.Ed., District Home Demonstration Agent, Agricultural Extension Service, Tallahassee (1959-1959).

Johnson, Helen Harvey, M.A., Assistant Professor, P.K. Yonge Laboratory School (1957-1960).

Johnson, Irmgard, Ph.D. (Denver), Associate Professor of Humanities (1955-1959).

Johnson, James Aaron, M.A., Assistant Professor of Logic and Humanities (1960-1960).

Johnson, Loys A., M.S.C.E., Associate Professor of Building Construction (1960-1960).

Johnson, McMillan Houston, M.Arch., Professor of Architecture (1946-1956).

Johnson, Raymond Clarence, M.S.E., Associate Research Professor, Engineering and Industrial Experiment Station (1946-1952).

Johnson, Richard Sadler, B.S.P., Registrar (1933-1939).

Johnson, Roger Burr, Ph.D. (Cornell), Associate Entomologist, Citrus Experiment Station (1952-1958).

Johnson, Warren Oswald, B.A., Meteorologist in Charge, Weather Forecasting Service, U.S.W.B. (1935-1938).

Johnson, William Edward, B.E.E., Instructor in Electrical Engineering (1946 [51-56] 1950).

Joiner, Jasper Newton, Ph.D. (Ohio State), Assistant Professor of Ornamental Horticulture and Assistant Ornamental Horticulturist, Agricultural Experiment Station (1950-1957).

Jonas, Genevieve Jean, M.S., Assistant Professor of Occupational Therapy (1959-1959).

Jones, Aaron Eugene, Ed.D. (California), Interim Professor of Education and Associate Director, Kellogg Junior College Leadership Program (1960-1960).

Jones, Anne Harrison, B.S., Assistant Registrar (1941-1952).

Jones, David Wilson, M.S.A., Associate Agronomist, Agricultural Extension Service (1946-1960).

Jones, Edmund Ruffin, Jr., Ph.D. (Virginia), Professor of Biology (1946-1947).

Jones, Edna Mae, M.S., Instructor in Nursing (1957-1957).

Jones, Elise Cecile, B.A., Assistant in Research, Bureau of Economic and Business Research (1953-1953).

Jones, Ernest McClain, LL.B., Professor of Law (1954-1957).

Jones, Herman P., M.A., Resident Counselor, Men's Residence Halls (1960-1960).

Jones, John A., M.A., Instructor in English (1957 [58-59] 1957).

Jones, John Paul, Ph.D. (Ohio State), Assistant Plant Pathologist, Gulf Coast Experiment Station (1958-1958).

Jones, John Paul, M.A., Professor of Journalism and Communication (1948-1951).

Jones, Oscar Frederick, Ph.D. (Stanford), Professor of German (1937-1959).

Jones, Raymond L., Ed.D . (Florida), Instructor of Education (1959-1959).

Jones, William Ellis, B.S.B.A., Business Manager (1948-1954).

Jones, William Hugh, Jr., M.Ag., Assistant Superintendent of Field Operations, Agricultural Experiment Station (1953-1953)

Jones, William Maurice, Ph.D. (Southern California), Assistant Professor of Chemistry (1956-1956).

Jordan, Lemuel Russell, M.A., Director of the Teaching Hospital and Clinics, Associate Professor of Management, College of Business Administration (1959-1959).

Jordan, Paul H., Jr., M.D. (Chicago), Associate Professor of Surgery (1959-1959).

Jourard, Sidney M., Ph.D. (Buffalo), Associate Research Professor in Nursing; Associate Professor of Psychology; Director of Research and of Graduate Studies in the College of Nursing (1958-1960).

Joyner, J. Frank, Assistant Agronomist, U.S.D.A., Everglades Experiment Station (1958-1958).

Jung, Petee Beth, M.A., Interim Instructor in Mathematics (1960-1960).

Jurkiewicz, Maurice J., M.D. (Harvard), Assistant Professor of Surgery (1959-1959).

Jutras, Pierre Jean, M.S., Assistant Agricultural Engineer, Citrus Experiment Station (1957-1957).

Kafoglis, Madelyn Lockhart, M.A., Interim Assistant Research Professor, Bureau of Economic and Business Research (1960-1960).

Kafoglis, Milton Z., Ph.D. (Ohio State), Assistant Professor of Economics (1958-1958).

Kalch, Lester Wilcox, M.Ag., Assistant Poultry Husbandman, Agricultural Extension Service (1951-1960).

Kalkman, Robert Henry, M.B.A., Interim Instructor in Real Estate (1957-1957).

Kaminsky, Eli, M.A., Instructor in Social Sciences and Political Science (1957-1957).

Kammerer, Gladys Marie, Ph.D. (Chicago), Professor of Political Science and Director of Public Administration Clearing Service (1958-1958).

Kane, Jean Duval, B.S.A., Assistant Preparator, Florida State Museum (1959-1959).

Kane, Judith Flatter, B.A., Research Assistant, Pharmaceutical Chemistry (1957-1957).

Kantor, Harry, Ph.D. (California), Associate Professor of Political Science (1952-1957). (On leave 1960-61).

Karam, Bobbie Epting, M.Sc.Ed., Research Assistant, Pharmaceutical Chemistry (1960-1960).

Karp, J. Robert, M.A., Assistant Professor of Economics (1949-1949).

Katterhenry, Arnold Allen, M.S., Assistant Professor of Civil Engineering (1948-1948).

Kaufman, Clemens Marcus, Ph.D. (Minnesota), Director, School of Forestry; Professor of Forestry and Forester; Forester and Head of Department, Agricultural Experiment Station (1951-1951).

Keister, Elwood J., Ed.D. (Columbia), Associate Professor of Music (1957-1960).

Kelbert, David Gustaf Alfred, Associate Horticulturist, Gulf Coast Experiment Station (1932-1946).

Kelsheimer, Eugene Gillespie, Ph.D. (Ohio State), Entomologist, Guf Coast Experiment Station (1942-1942).

Kendall, Gladys Harbaugh, B.A., Home Industries and Marketing Specialist, Agricultural Extension Service, Tallahassee (1937-1949).

Kenelly, John Willis, Jr., M.S., Instructor in Mathematics (1959-1959).

Kephart, Ralph Claude, Ed.D. (Florida), Assistant Professor of Engineering Graphics (1953-1953).

Keppel, Reuben Arthur, B.Ch.E., Research Associate, Engineering and Industrial Experiment Station (1955-1957).

Kerns, William H., B.S.J., Head, Health Center Information, Health Center (1954-1960).

Kerr, Stratton Horsburg, Ph.D. (Cornell), Assistant Entomologist, Agricultural Experiment Station (1953-1953).

Kerslake, Kenneth Alvin, M.F.A., Instructor in Art (1958-1958).

Kessler, William Joseph, Assistant Professor of Electrical Engineering (1943-1945).

Kesterson, James Walter, M.S., Chemist, Citrus Experiment Station (1947-1956).

Keyworth, Robert Allen, M.A., Instructor in Speech (1959-1959).

Khan, Mohammed I., Ed.D. (Columbia), Interim Assistant Professor of Education (1960-1960).

Kidd, Kenneth Paul, Ph.D. (Peabody), Professor of Education (1938-1955).

Kidder, Ralph Wyman, M.S., Animal Husbandman, Everglades Experiment Station (1932-1957).

Kiefer, Felix, Ph.D. (Erlangen, Germany), Interim Research Asssociate in Nuclear Engineering (1958-1958).

Kier, Lemont B., Jr., Ph.D. (Minnesota), Assistant Professor of Pharmaceutical Chemistry (1959-1959).

Kiker, John Ewing, M.C.E., Professor of Civil Engineering and Research Professor, Engineering and Industrial Station (1947-1949).

Kilby, John Davis, Ph.D. (Florida), Associate Professor of Biological Sciences and Biology (1947-1956).

Killinger, Gordon Beverly, Ph.D. (Iowa State), Agronomist, Agricultural Experiment Station (1941-1943).

Kilpatrick, Wylie, Ph.D. (Brookings), Research Professor, Bureau of Economic and Business Research (1948-1948).

Kimbrough, Ralph Bradley, Ed.D. (Tennessee), Associate Professor of Education (1958-1958).

Kimmel, Herbert David, Ph.D. (Southern California), Assistant Professor of Psychology (1958-1958).

Kinard, Drayton Tucker, Ph.D. (Michigan State), Agricultural Engineer and Head of Department, Agricultural Experiment Station and Agricultural Extension Service; Professor of Agricultural Engineering and Head of Department, College of Agriculture (1958-1958).

Kincaid, Randall Rich, Ph.D. (Missouri), Plant Pathologist, North Florida Experiment Station (1929-1943).

King, Emily Elizabeth, M.Ed., State Girls' 4-H Club Agent, Agricultural Extension Service, Tallahassee (1946-1953). (On leave 1959-61).

King, Fred Elijah, M.S., Assistant Director of Housing (1951-1957).

King, Frederick Alexander, Ph.D. (Johns Hopkins), Assistant Research Professor of Surgery and Psychology (1959-1959).

Kinzey, Bertram York, Jr., M.S.A.E., Associate Professor of Architecture (1959-1959).

Kirk, John Wayne, M.A., Instructor in Speech (1957-1957).

Kirk, William Gordon, Ph.D. (Iowa State), Vice Director in Charge, Range Cattle Experiment Station (1936-1941).

Kirkland, Edwin Capers, Ph.D. (Northwestern), Professor of English (1946 [54-57] 1951).

Kirkpatrick, Elmer E., B.S., B.S.C.E., Assistant Professor of Building Construction (1959-1959).

Kirkpatrick, Martin Smith, M.A., Instructor in English (1956 [58-60] 1956).

Kissam, Edward Bernard, M.D. (Bowman Gray), Clinical Associate in Surgery (1960-1960).

Kitchen, Hyram, D.V.M. (California), Interim Research Associate, Agricultural Experiment Station (1960-1960).

Kizner, Harold George, M.S.C.E., Interim Research Associate, Engineering and Industrial Experiment Station (1959-1959).

Klein, Robert E., M.D. (Bowman Gray), Clinical Associate in Pathology (1958-1960).

Kleinschmidt, Arthur Charles, Ph.D. (Iowa State), Professor of Industrial Engineering (1953-1955).

Klement, Frank William, M.A., Assistant Professor of Engineering Graphics (1958-1958).

Klorfein, Elliot Harry, M.D. (Tulane), Assistant in Surgery (1959-1959).

Kluge, Ralph Wendel, M.S., Professor of Civil Engineering and Head of Department (1951-1951).

Knapp, Frederick W., Ph.D. (California), Assistant Professor of Food Technology and Nutrition, College of Agriculture; Assistant Biochemist, Agricultural Experiment Station (1960-1960).

Kniazeff, Alexis John, D.V.M. (California), Associate Virologist, Agricultural Experiment Station (1958-1958).

Knight, Conrad Wallace, M.A.E., Assistant Professor of Engineering Graphics (1950-1956).

Knight, John Elbert, B.A., Personnel Officer, Teaching Hospital and Clinics (1961-1961).

Knorr, Louis Carl, Ph.D. (Cornell), Plant Pathologist, Citrus Experiment Station (1948-1959). (On leave 1960-61).

Knowles, Harold Loraine, Ph.D. (Kansas), Professor of Physics and Physical Sciences; Head, Department of Physical Sciences (1931-1954).

Knowles, Lois Nina, M.A., Assistant Professor of Nursing and Assistant Dean, College of Nursing (1956-1960).

Knox, Margaret Enid, Ph.D. (Illinois), Associate Librarian and Head, Reference and Bibliography Department; Associate Professor of Library Science (1949-1951).

Koch, Arthur L., Ph.D. (Chicago), Associate Professor of Biochemistry, College of Medicine (1956-1959).

Koefod, Paul E., Ph.D. (Institute of International Studies, Geneva), Associate Professor of Economics (1956-1956).

Koger, Marvin, Ph.D. (Missouri), Professor of Animal Husbandry and Animal Husbandman, Agricultural Experiment Station (1951-1951).

Kolarik, Joseph Milan, Ph.D. (Pittsburgh), Associate, University Counseling Center; Assistant Professor of Psychology (1956-1956).

Koo, Robert Chung Jen, Ph.D. (Florida), Assistant Horticulturist, Citrus Experiment Station (1953-1953).

Koons, Burt Stanley, B.A., Captain, Assistant Professor of Air Science (1959-1959).

Kopp, Edgar William, M.S.I.E., Assistant Dean of the College of Engineering and Professor of Industrial Engineering (1955-1960).

Kordana, Jane Helen, M.A., Assistant Professor of Nursing (1957-1957).

Koruturk, Sadi Sabit, M.Arch., Associate Professor of Architecture (1947-1956).

Krastin, Karl, J.S.D. (Yale), Professor of Law (1948-1954).

Krebs, Robert Edward, Ed.D. (Florida), Assistant Professor of Education (1953 [56-57] 1959).

Kretchman, Dale Warren, M.S., Assistant Horticulturist, Citrus Experiment Station (1958-1958).

Kretschmer, Albert Emil, Jr., Ph.D. (Rutgers), Associate Agronomist, Everglades Experiment Station (1952-1958).

Krezdorn, Alfred Herman, Ph.D. (Texas A&M), Professor and Head of the Department of Fruit Crops, Agricultural Experiment Station; Horticulturist and Head of the Department, Agricultural Extension Service (1957-1960).

Krienke, Walter Albert, M.S., Associate Professor of Dairy Manufacturing and Associate Dairy Technologist, Agricultural Experiment Station (1946-1946).

Kronsbein, John Ph.D. (Leipzig, Germany), Dr. rer. nat. (Jena, Germany), Professor of Mechanical Engineering; Professor of Physics (1958-1958).

Krumm, Roger Vincent, M.A., Assistant in Library in Charge of Chemistry Library (1951-1951).

Kuhn, Gerald D., M.S., Assistant Food Microbiologist in Food Technology and Nutrition, Agricultural Experiment Station; Assistant Professor and Assistant Food Microbiologist, College of Agriculture (1960-1960).

Kuitert, Louis Cornelius, Ph.D. (Kansas), Entomologist, Agricultural Experiment Station (1948-1955).

Kundel, Tewes, M.S., Associate Professor of Electrical Engineering (1957-1957).

Kurth, Arthur Lincoln, Ph.D. (Yale), Associate Professor of French (1947-1954).

Lackey, James Bridges, Ph.D. (Columbia), Professor of Sanitary Science and Research Professor, Engineering and Industrial Experiment Station (1952-1952).

Laessle, Albert Middleton, Ph.D. (Florida), Associate Professor of Biology (1942-1956).

Lafferty, Donald Lee, Ph.D. (Kentucky), Associate Professor of Physics and Nuclear Engineering (1955-1957).

Laird, Dorothy Stephens, Ed.D. (Florida), Associate Professor of Education (1944 [45-47] 1956).

Lake, Noel Reese, B.S.A., Superintendent of Grounds (1955-1955).

Lambert, Roy E., Ph.D. (Illinois), Assistant Professor of Humanities (1959-1959).

Lamborn, Björn Nils-Ander, M.A., Assistant in Research, Physics Department (1960-1960).

Landsman, Theodore, Ph.D. (Syracuse), Professor of Education; Associate, University Counseling Center (1958-1959).

Lane, David, Ph.D. (Columbia), Associate Professor of Education; Associate, University Counseling Center (1954-1954).

Lang, Richard Andre, Ph.D. (Geneva, Switzerland), Assistant Research Professor, Statistical Laboratory (1960-1960).

Lang, Gene Jordon, M.S.E., Research Assistant, Nuclear Engineering (1959-1959).

Langford, Allie Gerald, M.A., Instructor in English (1953 [58-59] 1953).

Langfelder, Leonard Jay, M.S.E., Assistant in Research, Engineering and Industrial Experiment Station (1960-1960).

Langston, Clarence Ambers, B.S.E., Assistant in Research, Engineering and Industrial Experiment Station (1956-1956).

Lankford, Samuel R., Trainer, Intercollegiate Athletics (1950-1950).

Large, John Runyon, M.S., Associate Plant Pathologist, Pecan Investigation Laboratory (1949-1949).

Larrick, Thomas, M.Arch., Professor of Architecture (1946-1946).

Larsen, Merwin John, Ph.D. (Iowa), Professor of Electrical Engineering and Head of Department (1951-1951).

Lasley, Marion Murray, Ph.D. (Columbia), Associate Professor of Spanish (1956-1956).

Lassiter, Roy Leland, Ph.D. (Florida), Associate Professor of Economics (1955-1959).

Latour, Marinus Henry, M.S.E., Associate Professor of Electrical Engineering and Associate Research Professor, Engineering and Industrial Experiment Station (1946-1956).

Lauter, Werner M., Ph.D. (Griefswald), Professor of Pharmaceutical Chemistry (1950-1950).

Lawrence, Cluke Mannan, M.Ag., District Supervisor of Agricultural Education (1958-1958).

Lawrence, Fred Parker, M.Ag., Citriculturist, Agricultural Extension Service (1947-1947).

Layne, James Nathaniel, Ph.D. (Cornell), Associate Professor of Biology (1955-1959).

Lear, William Edward, Ph.D. (Florida), Professor of Electrical Engineering and Research Professor, Engineering and Industrial Experiment Station (1949 [53-54] 1957.

Leavitt, Benjamin Burton, Ph.D. (Harvard), Associate Professor of Biological Sciences and Biology (1946-1954).

Lee, Permillas Arten, Jr., M.A., Assistant Professor of Physical Education (1948-1951).

Lee, Robert Charles, Ph.D. (Peabody), Associate Professor of English (1947-1956).

Legate, David Virkler, M.A.E., Interim Assistant Professor and Field Representative, General Extension Division (1957-1957).

leGrand, Ferdinand, M.S., Assistant Agronomist, Everglades Experiment Station (1958-1958).

Leibman, Kenneth C., Ph.D. (New York), Assistant Professor of Pharmacology and Therapeutics, College of Medicine (1956-1957).

Leighty, Ralph George, B.S., Associate Soils Surveyor, Agricultural Experiment Station (1947-1956).

Leilich, Roy Edgar, Re.D. (Indiana), Associate Professor of Professional Physical Education and Recreation (1952-1957).

Leist, William Carroll, B.S., Major, Ordnance Corps, Assistant Professor of Army Science (1960-1960).

Lendrum, James Thoburn, M.S.Arch., Professor of Architecture and Head of Department (1957-1957).

Leonard, Chester D., Ph.D. (Rutgers), Associate Horticulturist, Citrus Experiment Station (1950-1950).

Leps, Joseph McElroy, Ed.D. (Columbia), Professor of Education (1943-1945). (On leave 1960-61).

Letchworth, George Wallace, M.D. (Miami), Assistant in Obstetrics and Gynecology (1959-1959).

Leutenegger, Ralph R., Ph.D. (State Univ. of Iowa), Assistant Professor of Speech and Associate, Speech and Hearing Clinic (1960-1960).

Levy, Herman M., M.A., Interim Instructor in Humanities (1960-1960).

Lewis, Allison Luther, Jr., M.A., Instructor in Humanities and Philosophy (1957-1957).

Lewis, Anne M., B.S., College Research Assistant in Department of Medicine (1960-1960).

Lewis, Donald Addison, M.A., Interim Instructor in Extension Surveys and Research, General Extension Division (1959-1959).

Lewis, Edward Haskell, M.A., Associate Professor of Mechanical Engineering (1951-1955).

Lewis, Hal Graham, Ph.D. (Columbia), Professor of Education (1936 [41-44] 1950).

Lewis, Howard Kenneth, E.E., Associate Professor of Mathematics; Counselor (1946-1955).

Lewis, Jackson E., B.A., Teaching Assistant in Citizenship and Community Service Training, General Extension Division (1959-1959).

Lewis, Will Irving, M.S., Instructor in Journalism and Communications and Radio Writer, Radio Production Center (1959-1959).

Li, Kuang Chiu, Ph.D. (Massachusetts), Interim Assistant Food Technologist, Agricultural Experiment Station (1958-1958).

Lie, Jessie Grossnickle, M.A., Assistant Professor of Physical Education (1959-1959).

Liggett, Helen Roberts, M.A., Interim Instructor in Education (1956-1956).

Liles, Annette Lucille, M.A., B.S. in L.S., Assistant Librarian, Reference and Bibliography and Assistant Professor of Library Science (1947-1951).

Linden, Duane Bernard, Ph.D. (Minnesota), Assistant Professor of Agronomy and Assistant Agronomist, Agricultural Experiment Station (1957-1957).

Linden, Leonard L., M.A., Interim Instructor in Sociology (1960-1960).

Linderberg, Jan Erik, Filp Kand. (Uppsala), Interim Research Associate in Physics (1960-1960).

Lindquist, Robert Carl, M.S., Instructor of Physical Sciences (1959-1959).

Lippincott, William Thomas, Ph.D. (Ohio State), Associate Professor of Chemistry (1957-1957).

Lipscomb, Ralph Waldo, M.S., Associate Agronomist, North Florida Experiment Station (1944-1944).

Lisca, Peter, Ph.D. (Wisconsin), Assistant Professor of Humanities and English (1958 [59-60] 1958).

Little, Winston Woodard, M.A., Dean of the University College and Professor of Logic (1931-1937).

Loar, Charles Ray, B.S., Assistant Director (Patient Accounts Manager), Teaching Hospital and Clinics (1960-1960).

Locascio, Salvadore Joseph, Ph.D. (Purdue), Assistant Professor of Vegetable Crops and Assistant Horticulturist, Agricultural Experiment Station (1959-1959).

Loften, William Travis, M.A.E., Associate Professor of Agricultural Education (1937-1947).

Loggins, Phillip Edwards, M.S., Assistant Professor of Animal Husbandry and Assistant Animal Husbandman, Agricultural Experiment Station (1953-1956).

Lohmeyer, George T., M.S.E., Superintendent of Sewage Treatment Plant (1957-1957).

Long, Edwin T., M.D. (Columbia), Clinical Associate in Surgery (1960-1960).

Long, Stephen Gano, M.A., Assistant Professor of English (1958-1958).

Long, Sterling Krueger, Ph.D. (Texas), Assistant Industrial Bacteriologist, Citrus Experiment Station (1958-1958).

Lore, Charles Eli, M.D. (North Carolina), Intern in Medicine (1960-1960).

Lorenzen, Fred Joseph, Jr., M.S., Instructor in Mathematics (1958-1958).

Lorincz, Andrew Endre, M.D. (Chicago), Assistant Professor of Pediatrics (1959-1959).

Lorz, Albert Protus, Ph.D. (Virginia), Professor of Vegetable Crops and Horticulturist, Agricultural Experiment Station (1948-1948).

Löwdin, Per-Olov, Ph.D. (Uppsala), Graduate Research Professor of Chemistry and Physics (1960-1960).

Lowe, Charles E., M.D. (Buffalo), Postdoctoral Research Fellow in Medicine (1960-1960).

Lu, Sung Yun, Ph.D. (Carnegie), Assistant Research Professor, Engineering and Industrial Experiment Station (1959-1959).

Lucas, Eleanor Simons, B.S. in L.S., Assistant in Library, Technical Processes (1950-1950).

Luke, Herbert Hodges, Ph.D. (Louisiana State), Plant Pathologist, U.S.D.A., Agricultural Experiment Station (1955-1955).

Lundy, Hosea Willis, B.S.A., Associate Agronomist in Charge, Suwannee Valley Experiment Station (1946-1955).

Luther, Dorothy Carolyn, M.A., Instructor in Nursing (1957-1957).

Lutrick, Monroe Cornealous, Ph.D. (Ohio State), Assistant Agronomist, West Florida Experiment Station (1956-1956).

Lyons, Henry Richard, M.D. (Georgetown), Lecturer in Psychiatry (1960-1960).

Lytle, Andrew Nelson, B.A., Lecturer in English (1948-1948).

Mable, Phyllis Louise, M.A., Resident Counselor, Women's Residence Halls (1959-1959).

Macdonald, William Dickson, S.J.D. (Michigan), Professor of Law (1948-1951).

Macy, Amelia Cox, M.A., Resident Counselor, Women's Residence Halls (1960-1960).

Magazu, Peter Francis, M.A., Interim Instructor in English and Education; Associate, Reading Laboratory and Clinic (1960-1960).

Magie, Robert Ogden, Ph.D. (Wisconsin), Plant Pathologist, Gulf Coast Experiment Station (1945-1945).

Mahon, John Keith, Ph.D. (California), Associate Professor of History (1954-1960).

Malawer, Sidney Joel, M.D. (Chicago), Intern in Medicine (1960-1960).

Malejka, Danuta, Ph.D. (Medical Academy, Poznan), Postdoctoral Fellow, Pharmaceutical Chemistry (1960-1960).

Malewitz, Thomas Donald, Ph.D. (Michigan State), Assistant Professor of Pharmacognosy and Pharmacology (1957-1957).

Maloney, Frank Edward, LL.B., Professor of Law and Dean of the College of Law (1946-1959).

Manley, William Tanner, Ph.D. (Florida), Assistant Agricultural Economist, U.S.D.A., Agricultural Experiment Station (1958-1958).

Maraulja, Matthew Daniel, B.S., Assistant in Chemistry, Citrus Experiment Station (1960-1960).

Marcus, Robert Brown, Ed.D. (Florida), Assistant Professor of Physical Sciences and Geography (1955-1957).

Maren, Thomas H., M.D. (Johns Hopkins), Professor of Pharmacology and Therapeutics and Head of Department, College of Medicine (1955-1955).

Marks, Charles H., M.D. (Vanderbilt), Clinical Associate in Surgery (1960-1960).

Marshall, Mildred Rose, M.D. (Texas), Lecturer in Psychiatry (1959-1959).

Marshall, Sidney Paul, Ph.D. (Minnesota), Professor of Dairy Husbandry and Dairy Husbandman, Agricultural Experiment Station (1942 [45-47] 1958).

Martin, Leslie John, Ph.D. (Minnesota), Professor of Journalism and Communications (1958-1958).

Martin, Oliver Earl Douglas, Jr., B.S.J., Assistant Editor, News Bureau (1958-1958).

Martin, Samuel Preston, M.D. (Washington, Mo.), Professor of Medicine and Head of Department, College of Medicine (1956-1956).

Martinez, Judith Jones, M.A., Instructor in Nursing (1960-1960).

Martinson, Earl Pehr, M.A., Professor of Industrial Engineering (1948-1949).

Marvel, Mason Edwin, M.S., Assistant Vegetable Crops Specialist, Agricultural Extension Service (1957-1957).

Mase, Darrel Jay, Ph.D. (Columbia), Dean of College of Health Related Services and Professor of Speech (1950-1958).

Massey, Hal, M.Ed., Instructor in Education (1955 [57-58] 1955). (On leave 1960-61).

Massey, William C., Ph.D. (California), Associate Professor of Biological Sciences and Anthropology (1958-1958).

Master, Joseph J., M.A., Interim Instructor of Accounting (1959-1959).

Mathews, Archie, Ph.D. (Illinois), Assistant Professor of Engineering Mechanics (1959-1959).

Mathews, Bruce Eugene, M.S.E., Research Associate, Engineering and Industrial Experiment Station (1956-1957).

Mathews, Edward Dean, M.P.H., Instructor in Physical Education (1959-1959).

Mathews, Sydney E., B.A.E., Camp Director, Florida Union (1958-1958).

Mathews, Thomas C., B.S.A., Assistant Soils Surveyor, Agricultural Experiment Station (1958-1958).

Mathews, William Horace, M.Ag., Assistant Horticulturist, Agricultural Extension Service (1957-1957).

Matthews, Charles Arnold, Ph.D. (Virginia), Professor of Finance and Head, Department of Finance and Insurance (1948-1957).

Maturo, Frank J.S., Jr., Ph.D. (Duke), Assistant Professor of Biological Sciences (1958-1958).

Mauderli, Max Otto, Ph.D. (Pennsylvania), Associate Professor of German (1948-1954).

Mauderli, Walter, D.Sc. (Zurich), Associate Professor of Radiation Physics (1960-1960).

Mauer, John W., B.S., Assistant Coach (1951-1951).

Mautz, Robert Barbeau, LL.B., Dean of Academic Affairs, and Professor of Law (1950-1958).

Maxfield, John Edward, Ph.D. (Oregon), Head Professor of Mathematics (1960-1960).

May, Frank Pierce, Ph.D. (Florida), Assistant Professor, Engineering and Industrial Experiment Station (1955 [59-60] 1961).

Mayberry, Maurice E., B.S.B.A., Placement Officer, Student Affairs (1953-1953).

McAlister, Lyle Nelson, Ph.D. (California), Professor of History and Head of Department (1950-1960).

McCachren, James Roland, M.A., Assistant Professor of Physical Education; Freshman Basketball Coach (1946-1946).

McCaleb, John Earl, Ph.D. (Texas A&M), Assistant Agronomist, Range Cattle Experiment Station (1955-1955).

McCall, Eugene Frank, M.D. (Tulane), Lecturer in Obstetrics and Gynecology (1959-1959).

McCall, John Temple, Ph.D. (Florida), Assistant Chemist, Animal Husbandry and Nutrition, Agricultural Experiment Station (1951-1958).

McChesney, William Wallace, M.D. (Virginia), University Physician (1949-1949).

McClamroch, James M., M.D. (Emory), Clinical Associate in Medicine (1959-1959).

McCleary, Richard Calverton, Ph.D. (Yale), Assistant Professor of Humanities (1958-1958).

McClelland, Hayes K., M.A., Assistant Dean of Men (1949-1954).

McConnell, Warren Everard, Ph.D. (Purdue), Director of Pharmaceutical Services of the Teaching Hospital and Associate Professor of Pharmacy (1957-1957).

McCornack, Andrew Adam, M.S., Assistant Horticulturist, Citrus Experiment Station (1953-1953).

McCown, Jack Thomas, M.Ag., Assistant Horticulturist, Agricultural Extension Service (1951-1955).

McCoy, Edward L., B.S., Major, Assistant Professor of Air Science (1958-1958).

McCoy, Francis Tyrone, LL.B., Law Librarian and Assistant Professor of Law (1955-1955).

McCracken, Janet May, Ph.D. (Ohio State), Associate Professor of Education (1947-1955).

McCubbin, Earl Noel, Ph.D. (Cornell), Horticulturist, Potato Investigations Laboratory (1940-1943).

McCullagh, William H., M.D. (Emory), Lecturer in Psychiatry (1959-1959).

McDonald, Ellen Marie, M.A., Teacher, P.K. Yonge Laboratory School (1957-1957).

McDonald, Frances Moore, B.S. in L.S., Assistant in Library, Technical Processes (1954 [54-58] 1954).

McDonald, Nancy, M.S.W., Instructor in Psychiatry (1960-1960).

McEachern, Floy McCall, M.A.E., Assistant Professor of Education (1944-1957).

McElwee, Edgar Warren, Ph.D. (Ohio State), Professor of Ornamental Horticulture and Head of Department; Horticulturist and Head of Department, Agricultural Experiment Station and Agricultural Extension Service (1953-1956).

McFadden, Lorne Austin, Ph.D. (Cornell), Assistant Plant Pathologist, Sub-Tropical Experiment Station (1956-1956).

McFadden, Samuel Edgar, Jr., Ph.D. (Virginia), Assistant Horticulturist, Agricultural Experiment Station (1950-1950).

McFarlane, James, B.Des., Interim Instructor in Interior Design (1958-1958).

McFerrin, John Berry, Ph.D. (North Carolina), Professor of Finance and Director of Graduate Studies in Business Administration (1937-1956).

McGill, Francis G., M.Ed., Head Resident Counselor, Men's Residence Halls (1957-1958).

McGough, Bobby Cornelius, M.B.A., Instructor in Real Estate (1955 [56-67] 1955).

McGraw, Frank William, Sr., B.A., Interim Teacher, P.K. Yonge Laboratory School (1960-1960).

McGuire, Vincent, Ed.D. (Florida), Professor of Education (1947-1960).

McIntosh, Edward Roy, M.S. in L.S., Instructor in Journalism and Communications and Film Supervisor, Television Station WUFT (1954 [57-58] 1954).

McIntosh, Pleasant Ray, M.F.A., Professor of Art (1949-1955).

McIntyre, Patricia Bowne, M.A. in L.S., Assistant in Library, Special Collections (1959-1959).

McKerns, Kenneth W., Ph.D. (McGill), Associate Professor of Obstetrics and Gynecology (1960-1960).

McLean, Edward Bruce, M.A., Instructor in Social Sciences (1959-1959).

McLean, Marie Catuogno, M.A., Assistant Professor in Nursing (1958-1958).

McLendon, Ida Ruth, Ph.D. (Ohio State), Associate Professor of Education (1936-1956).

McLeod, Stuart Ramsay, M.F.S., Interim Instructor in English (1960-1960).

McMillan, Paul Clifford, B.A., Buildings Custodian (1958-1958).

McMullen, Kenneth Smith, M.Ag., District Agent, Agricultural Extension Service (1935-1946).

McNairy, Alice Hall, M.Ln., Assistant in Library, Acquisitions (1953-1953).

McNeely, Arthur M., M.Ag., B.S.B.A., Purchasing Agent, Health Center (1952-1961).

McPherson, William Kenneth, M.S., Professor of Agricultural Economics and Agricultural Economist, Agricultural Experiment Station (1951-1951).

McQuitty, John Vredenburgh, Ph.D. (Kentucky), University Examiner and Professor of Psychology (1929-1935).

McRae, Luther Curtis, M.D. (Florida), Intern in Medicine (1960-1960).

McWillie, Nancy A., B.S., Research Assistant in Surgery (1960-1960).

Mehrhof, Norman Ripley, M.Ag., Professor of Poultry Hubandry and Head of Department; Poultry Husbandman and Head of Department, Agricultural Experiment Station and Agricultural Extension Service (1924-1949).

Meleney, Henry Edmund, M.D. (Columbia), Interim Professor in Medicine (1959-1960).

Mercadante, Lucille Theresa, M.A., Assistant Dean in Charge of Nursing Services and Assistant Professor in Nursing (1958-1959).

Mering, John Vollmer, Ph.D. (Missouri), Instructor of Social Sciences (1960-1960).

Meyer, Harvey Kessler, Ed.D. (Florida), Professor of Education (1936 [37-46] 1952).

Meyer, Herbert Albert, Ph.D. (Iowa), Professor of Mathematics; Director, Statistical Laboratory (1946-1952).

Michael, Max, Jr., M.D. (Harvard), Clinical Professor in Medicine (1958-1959).

Migita, Shunsuke, M.D., Ph.D. (Kyushu), Postdoctoral Research Fellow in Biochemistry (1960-1960).

Miklos, John Edward, LL.B., Associate Professor and Head of Public Service Training Center, General Extension Division (1951-1956).

Miles, Guy Simpson, Ph.D. (Vanderbilt), Associate Profesor of English (1957-1957).

Millar, Jane Carree, M.A., Assistant Professor of Physical Education (1948-1952).

Miller, George H., M.D. (Pennsylvania), Associate Professor of Surgery and Chief of the Division of Urology (1958-1958).

Miller, Howard Nile, Ph.D. (California), Plant Pathologist, Agricultural Experiment Station (1948-1955).

Miller, James W., Jr., M.S.F., Professor of Logging and Milling and Forester (1937-1951).

Miller, Nancy Ann, M.A., Resident Counselor, Women's Residence Halls (1960-1960).

Miller, Theodore Kay, M.A., Resident Counselor, Men's Residence Halls (1957-1957). (On leave 1960-61).

Miller, William Henry, M.S.A.E., Associate Professor of Aeronautical Engineering (1955-1955).

Milton, Ruth Louise, M.S., Interim Assistant State Girls' 4-H Club Agent, Agricultural Extension Service, Tallahassee (1952 [55-57] 1960).

Minc, Henryk, Ph.D. (Edinburgh), Associate Professor of Mathematics (1960-1960).

Mincey, Wilbur Franklin, Assistant Meteorologist, U.S.W.B., Weather Forecasting Service (1959-1959).

Mitchell, Rodger David, Ph.D. (Michigan), Assistant Professor of Biology (1957-1957).

Mitchell, William Grant, M.A., Associate Editor, Agricultural Experiment Station and Agricultural Extension Service (1952-1960).

Mohrmann, Gerald Paul, M.A., Instructor in Speech (1957-1957).

Moles, Stanley Sylvester, M.D. (Duke), Assistant in Medicine (1959-1960).

Monk, Carl Douglas, Ph.D. (Rutgers), Assistant Professor of Botany (1959-1960).

Montelaro, James, Ph.D. (Florida), Associate Vegetable Crops Specialist, Agricultural Extension Service (1952 [55-58] 1958).

Mooney, Ernest Gordon, M.P.E., Assistant Professor of Physical Education (1945-1956).

Moore, Alan Coningsby, M.Ed., Assistant Professor of Physical Education (1953-1957).

Moore, Bernard H., B.A., Assistant Meteorologist, Weather Forecasting Service, U.S.W.B. (1935-1935).

Moore, Edwin Lewis, Ph.D. (Massachusetts State), Chemist, Citrus Experiment Station (1951-1951).

Moore, James Francis, M.B.A., Assistant Professor of Accounting (1948-1953).

Moore, John Thomas, Ph.D. (Chicago), Associate Professor of Mathematics (1953-1953).

Moore, Julian Stephen, M.S.A., Extension Poultryman, Agricultural Extension Service (1950-1950).

Moore, Marlin Charles, M.D. (Hannemann), Lecturer in Psychiatry (1959-1959).

Moore, Paul Harold, M.D. (Mississippi), Assistant in Radiology (1960-1960).

Moore, Theral Orvis, Ph.D. (Missouri), Assistant Professor of Mathematics (1955-1955).

Moore, William Edgar, Ph.D. (Peabody), Professor of Logic and Head of Department; Director, Academic Counseling, University College (1930 [44-46] 1957).

Moorman, John Haynes, Ph.D. (Iowa), Professor of Education and Head of Business Education (1940-1951).

Morales, Julio Alfredo, M.A., Instructor in Mathematics (1946-1946).

Morgan, George Beers, Jr., M.S., Assistant Research Professor, Civil Engineering, Engineering and Industrial Experiment Station (1955-1956).

Morgan, Hazel Thompson, M.A., Instructor in Youth Activities, General Extension Division (1950-1950).

Morgan, James L., B.S., Tabulating Supervisor, Office of the Registrar (1956-1956).

Morgan, William Herman, M.A., Assistant in Research, Engineering and Industrial Experiment Station (1957-1957).

Morris, Alton Chester, Ph.D. (North Carolina), Professor of English (1927-1946).

Morris, Charles William, Ph.D. (Chicago), Graduate Research Professor of Philosophy (1958-1958).

Morse, Walter Priest, Ph.D. (Florida), Associate Professor of Mathematics (1952 [55-57] 1957).

Mortensen, John Alan, Ph.D. (Cornell), Assistant Geneticist, Watermelon and Grape Laboratory (1960-1960).

Moses, Carl C., Ph.D. (North Carolina), Visiting Assistant Professor of Political Science (1960-1960).

Mosco, James A., M.D. (St. Louis University), Lecturer in Psychiatry (1960-1960).

Moxley, Clisby Carey, Ph.D. (Kentucky), Associate Economist, Agricultural Extension Service (1955-1955).

Muehlner, Felix, U.J.D. (Frederick William, Germany), Associate Professor of Management (1950-1950).

Mueller, Theodore, Ph.D. (Northwestern), Assistant Professor of French (1957-1957).

Muga, Marvin Luis, Ph.D. (Texas), Assistant Professor of Chemistry (1960-1960).

Mull, Leon Edmund, Ph.D. (Iowa State), Professor of Dairy Science and Dairy Technologist, Agricultural Experiment Station (1940-1956).

Muller, Albert Stanley, B.S., Professor of Plant Pathology and Counselor to Latin-American Agricultural Students (1952-1952).

Mullin, Robert Spencer, Ph.D. (Minnesota), Plant Pathologist, Agricultural Extension Service (1958-1958).

Mullins, John Thomas, Ph.D. (North Carolina), Assistant Professor of Biological Sciences and Assistant Professor of Botany (1959-1959).

Muma, Martin Hammond, Ph.D. (Maryland), Entomologist, Citrus Experiment Station (1951-1958).

Mundy, Belvey Washington, Ph.D. (Indiana), Associate Professor of Physical Sciences and Chemistry (1955-1956).

Munroe, John Francis, M.D. (North Carolina), Intern in Medicine (1960-1960).

Muntyan, Bozidar, M.S., Assistant Professor of Education (1953-1953). (On leave 1959-61).

Murphey, Milledge, Jr., Ph.D. (Oklahoma A&M), Associate Professor of Entomology (1947-1953).

Murphree, Albert Alexander, B.A. (Oxford), Associate Professor of English (1934-1955).

Murphree, Clyde Elwyn, D.P.A. (Harvard), Associate Professor of Agricultural Economics and Associate Agricultural Economist, Agricultural Experiment Station (1951-1957).

Murphy, Bernard Vincent, Jr., M.Ed., Teacher, P.K. Yonge Laboratory School (1958-1958).

Muschlitz, Earl Eugene, Ph.D. (Pennsylvania State), Professor of Electrical Engineering; Research Professor, Engineering and Industrial Experiment Station and Professor of Chemistry (1951-1958).

Myers, Forrest Earl, M.Ag., Assistant Director, Agricultural Extension Service (1948-1960).

Myers, Francis Colville, M.A., Assistant Professor of Mathematics (1956-1956).

Myers, Julian Mostella, M.S.A., Agricultural Engineer and Professor of Agricultural Engineering, Agricultural Experiment Station (1947-1960).

Myers, Robert Joseph, M.S. in L.S., Assistant in Library, Circulation (1960-1960).

Nagle, Francis Joseph, Ed.D. (Boston), Assistant Professor of Professional Physical Education (1956-1956).

Nakamura, Hajime, D.Litt., (Tokyo), Visiting Professor of Religion (1961-1961).

Nash, William Arthur, Ph.D. (Michigan), Professor of Engineering Mechanics and Research Professor and Head of Mechanics Research Section, Engineering and Industrial Experiment Station (1954-1956).

Nation, James Lamar, Ph.D. (Cornell), Assistant Professor of Biological Sciences and Entomology (1960-1960).

Nattress, John Andrew, M.S.I.E., Associate Professor of Industrial Engineering (1957-1960).

Naylor, John Geoffrey, M.F.A., Interim Assistant Professor of Art (1959-1959).

Neal, Ruth, M.A., Off-Campus Counselor (1953-1958).

Neale, James Ralph, Ed.D. (Columbia), Assistant Professor of English (1946-1954).

Neff, Thomas O'Neil, M.S.E.E., Associate Professor of Engineering Mechanics (1946-1952).

Neidhardt, Carl Richard, M.F.A., Assistant Professor of Art (1952 [53-54] 1955).

Neller, Joseph Robert, Ph.D. (Rutgers), (D.Sc. [Honorary] Macalester), Soils Chemist, Agricultural Experiment Station (1930-1932).

Nelson, Janet, M.A., Instructor in Physical Therapy (1959-1959).

Nelson, Lowry, Ph.D. (Wisconsin), Visiting Professor of Sociology (1960-1960).

NeSmith, James, Ph.D. (North Carolina State), Soils Specialist, Agricultural Extension Service (1950 [51-58] 1958).

Nettles, Victor Fleetwood, Ph.D. (Cornell), Professor of Vegetable Crops and Horticulturist, Agricultural Experiment Station (1938-1959).

Nevis, Arnold H., M.D. (Harvard), Ph.D. (M.I.T.), Assistant Professor of Medicine (1960-1960).

Newbill, Mickie, M.F.A., Assistant Professor of Journalism and Communications and TV Producer-Director, Television Station WUFT (1956 [58-60] 1960).

Newcomb, Thomas F., M.D. (Pittsburgh), Assistant Professor of Medicine and Director of Hematology Laboratory (1959-1959).

Newhall, William Freeman, Ph.D. (Bryn Mawr), Associate Biochemist, Citrus Experiment Station (1952-1960).

Newman, Morris M., M.S., Interim Associate Research Professor, Engineering and Industrial Experiment Station (1960-1960).

Nichols, Barbara Nylen, M.Ed., Teacher, P.K. Yonge Laboratory School (1958-1958).

Nickelson, William Richard David, Jr., B.S.E., Assistant in Research, Engineering and Industrial Experiment Station (1957-1957).

Niemela, Roy Waldemar, M.S., Assistant Professor of Management (1957-1957).

Niimoto, Dorothy H., Ph.D. (Cornell), Research Assistant in Botany (1959-1959).

Nissly, Charles Martin, M.A., Interim Assistant Director, School of Inter-American Studies (1960-1960).

Nixon, Madeline Somers, M.S., Assistant Professor of Physical Education (1957-1957).

Noble, Robert Vernon, M.A., Assistant Professor of Correspondence Instruction and Head of Department, General Extension Division (1950-1957).

Noggle, Glenn Ray, Ph.D. (Illinois), Professor of Botany and Head of Department; Botanist and Head of Department, Agricultural Experiment Station (1957-1957).

Nolan, William John, Ph.D. (Michigan), Research Professor, Engineering and Industrial Experiment Station and Professor of Chemical Engineering (1946-1949).

Nolting, John Paul, M.S., Assistant Professor of Physical Sciences (1955-1956).

Noonan, John Clement, M.S., Assistant Horticulturist, Sub-Tropical Experiment Station (1951-1951).

Norden, Allen James, Ph.D. (Iowa State), Assistant Professor of Agronomy and Assistant Agronomist, Agricultural Experiment Station (1958-1958).

Noriega, Gail Corbeau, M.A., Assistant in Library, Technical Processes (1960-1960).

Norman, Oscar Newton, B.S., Assistant Meteorologist, Weather Forecasting Service, U.S.W.B. (1941-1941).

Northrop, Floyd Lorrain, M.S., District Supervisor, Agricultural Education (1948-1948).

Notari, Robert Emil, M.S., Instructor in Pharmacy (1959-1959).

Novak, Mary E., B.S., Instructor in Radiation Physics (1960-1960).

Nuetzel, William Andrew, M.S., Assistant Professor of Professional Physical Education (1959-1960).

Nulton, Lucy, M.A., Instructor, P.K. Yonge Laboratory School (1950-1954).

Nutter, Hazen Edward, M.A., Associate Professor of Education and Head of Materials of Instruction (1938-1950).

Oberbacher, Marion Francis, Ph.D. (Purdue), Assistant Plant Physiologist, Citrus Experiment Station (1952 [55-58] 1952).

O'Dell, William R., B.G.E., Major, Assistant Professor of Air Science (1960-1960).

Odor, Dorothy Louise, Ph.D. (Rochester), Associate Professor of Anatomy, College of Medicine (1956-1960).

Ogata, Michihiko, M.D. (Kyushu), Postdoctoral Research Fellow in Physiology (1959-1959).

Oliva, Peter Frank, Ed.D. (Columbia), Associate Professor of Education (1957-1957).

Oliver, Clifton, Jr., M.A., Associate Professor of Management and Director of Management Center in College of Business Administration (1946-1959).

Olsen, Robert Winthrop, B.S., Biochemist, Citrus Experiment Station (1947-1947).

Olson, Clara McDonald, Ph.D. (Peabody), Professor of Education (1934 [56-57] 1952).

Olson, Giovanna F., Ph.D. (Rome), Research Assistant in Medicine (1960-1960).

Olson, James Allen, Ph.D. (Harvard), Asociate Professor of Biochemistry (1956-1959).

Olson, Waldemar, Ed.D. (Texas), Associate Professor of Education (1957-1957).

Olsson, Carl Niels, M.S., Instructor in Physical Sciences (1957-1958).

O'Malley, John Richard, M.S., Teaching Associate in Electrical Engineering (1959-1959).

Omer, Guy Clifton, Jr., Ph.D. (California Institute of Technology), Professor of Physical Sciences and Physics (1955-1955).

Opp, Carl Braden, B.A., Head, Off-Campus Housing (1940-1955).

Oras, Ants, B.Litt. (Oxford), Professor of English (1949-1949).

Ormond, William Newman, M.A., Assistant Professor of English (1948-1956).

Orr, Richard Clifton, B.S., Assistant Editor, Agricultural Experiment Station (1958-1958).

Orsenigo, Joseph R., Ph.D. (Cornell), Assistant Horticulturist, Everglades Experiment Station (1957-1957).

Orth, Paul Gerhardt, Ph.D. (Wisconsin), Assistant Soils Chemist, Sub-Tropical Experiment Station (1959-1959).

Osborn, George Coleman, Ph.D. (Indiana), Professor of Social Sciences (1947-1955).

O'Steen, Alva Woodrow, B.S.A., Supervisor, Florida National Egg Laying Test, Agricultural Extension Service, Chipley (1941-1946).

Osterbind, Carter Clarke, Ph.D. (American), Research Professor, Bureau of Economic and Business Research (1950-1956).

Otis, Arthur B., Ph.D. (Brown), Professor of Physiology and Head of Department, College of Medicine (1956-1956).

Otte, Burton John Henry, M.S., Curator of Chemistry (1925-1925).

Overman, Amegda Jack, M.S., Assistant Soils Microbiologist, Gulf Coast Experiment Station (1951-1956).

Owens, James Bacot, B.S., Agricultural Statistician, U.S.D.A., Agricultural Experiment Station (1945-1945).

Ozaki, Henry Yoshio, Ph.D. (Cornell), Assistant Horticulturist, Everglades Experiment Station (1954-1954).

Ozell, Alan Munci, Ph.D. (Illinois), Professor of Civil Engineering and Research Professor, Engineering and Industrial Experiment Station (1954-1956).

Pace, James Edward, M.S.A., Associate Animal Husbandman, Agricultural Extension Service (1942-1955).

Paden, William Lee, Jr., M.A., Teacher, P.K. Yonge Laboratory School (1958-1958).

Pafford, Virgie Melton, M.P.H., Instructor in Nursing (1959-1959).

Page, Ralph Emerson, Ph.D. (Syracuse), Dean of the College of Arts and Sciences and Professor of Political Sciences (1948-1948).

Palmer, Arno Zane, Ph.D. (Missouri), Associate Professor of Animal Husbandry and Associate Animal Husbandman, Agricultural Experiment Station (1955-1955).

Palmer, James N., M.A., Interim Instructor in Humanities (1959-1959).

Pan, Huo-Ping, Ph.D. (Illinois), Assistant Biochemist, Agricultural Experiment Station (1958-1958).

Pardee, Mary Ruth, B.S. in L.S., Assistant in Library, Technical Processes (1945-1952).

Parker, James Carroll, B.S., Interim Assistant in Research, Engineering and Industrial Experiment Station (1959-1959).

Parkinson, Thomas Franklin, Ph.D. (Virginia), Associate Professor of Nuclear Engineering (1960-1960).

Parramore, Willie E., M.Ed., Assistant Professor of Extension Art. Display and Design, General Extension Division (1950-1960).

Parsons, Mary Alice Thomas, M.S. in L.S., Assistant in Library, Instructor in Library Science (1960-1960).

Parvin, Fayette Ward, D.P.A. (Harvard), Assistant to the President (1948-1957).

Pate, Olen Basil, M.A., Instructor, P.K. Yonge Laboratory School (1952-1957).

Patray, James W., M.D. (Florida), Intern in Pediatrics (1960-1960).

Patrick, Rembert Wallace, Ph.D. (North Carolina), Graduate Research Professor of History (1940-1959).

Patrick, Roger, Ph.D. (Iowa State), Bacteriologist, Citrus Experiment Station (1952-1952).

Patterson, Elam Pusey, M.A.E., Assistant Professor of Mechanical Engineering (1952-1956).

Patterson, John R., M.D. (North Carolina), Assistant in Obstetrics and Gynecology (1959-1959).

Patterson, Paul Bryan, Ph.D. (Florida), Assistant Professor of Mathematics (1943 [44-46] 1954).

Paul, Ouida Fay, Ed.D. (Columbia), Assistant Professor of Music (1949-1949).

Payne, Ancil Newton, Ph.D. (Illinois), Associate Professor of History (1929-1945).

Payne, Philip Marshall, III, M.D. (Virginia), Intern in Surgery (1960-1960).

Payne, Walter Arville, Ph.D. (Florida), Assistant Professor of Social Sciences (1952-1958).

Peacock, Fentress McCoughan, M.S., Assistant Animal Husbandman, Range Cattle Experiment Station (1952-1954).

Pearce, James Martine, Ph.D. (Florida), Assistant Professor of Chemistry (1946-1953).

Peeler, Ruth Beatrice, M.A., Instructor, P.K. Yonge Laboratory School (1934-1952).

Pennington, Clark William, C.E., Assistant Professor of Mechanical Engineering (1954-1954).

Penrod, John Arthur, Ph.D. (Pennsylvania), Assistant Professor of English (1950-1954).

Perdue, George Fred, B.E.E., Research Associate, Engineering and Industrial Experiment Station (1955-1958).

Perkins, Harvey Meade, M.D. (Louisville), Instructor and Chief Resident in Surgery (1959-1960).

Perkins, Henry Thomas, Jr., M.D. (Duke), Assistant in Medicine (1959-1959).

Perks, Anthony M., Ph.D. (St. Andrews), Postdoctoral Fellow in Physiology (1959-1959).

Perry, Franklyn Stanton, M.Ag., District Agent, Agricultural Extension Service (1946-1949).

Perry, Vernon G., Ph.D. (Wisconsin), Professor of Nematology and Nematologist, Agricultural Experiment Station (1959-1959).

Peters, William John, M.S.F., Interim Assistant in Forestry, Agricultural Experiment Station (1960-1960).

Peterson, Erhart Gustaf, LL.B., M.B.A., Associate Professor of Accounting (1947-1949).

Peterson, William Wesley, Ph.D. (Michigan), Associate Professor of Electrical Engineering (1956 [59-60] 1957).

Petru, Galina Goldammer, Lic. en Dr., Lic es Lett. (Paris), Assistant Professor of Russian (1959-1959).

Pettis, Aubrey Marshall, M.S.A., Associate Agricultural Engineer, Agricultural Extension Service (1947-1957).

Pfahler, Paul Leighton, Ph.D. (Purdue), Assistant Agronomist, Agricultural Experiment Station (1958-1958).

Phaneuf, Victor S., B.S.E., Associate Professor of Building Construction (1958-1960).

Phelps, George Osborn, M.S.M.E., Assistant Professor of Engineering Graphics (1937 [40-45] 1945).

Phillips, Arthur Minis, B.S., Associate Entomologist, Pecan Investigations Laboratory, U. S.D.A. (1941-1948).

Phillips, Harold Roger, M.B.A., Interim Instructor in Management (1960-1960).

Philpott, Frank Excell, Ed.D. (New York), Assistant Professor of Physical Education (1946-1946).

Philpott, Harry Melvin, Ph.D. (Yale), Vice President of the University (1947 [52-57] 1957).

Pickett, Wilbur Crafts, Jr., M.D. (Maryland), Instructor in Medicine (1958-1960).

Pierce, Emory Lowe, Ph.D. (Florida), Professor of Biology (1945-1955).

Pieringer, Arthur Paul, Ph.D. (Cornell), Assistant Horticulturist, Citrus Experiment Station (1956-1956).

Pierson, William Haskell, Ph.D. (Chicago), Associate Professor of Geography (1946-1946). (On leave 1960-61).

Pirenian, Zareh Meguerditch, M.S., Associate Professor of Mathematics (1931-1937).

Pirkle, Earl C., Jr., Ph.D. (Cincinnati), Associate Professor of Physical Sciences (1950-1957).

Plager, Sheldon Jay, LL.B., Assistant Professor of Law (1958 [59-60] 1958).

Platt, William J., Jr., M.S.A., District Agent, Agricultural Extension Service (1936-1953).

Platte, Edna Hefty, M.A. in L.S., Assistant in Library, Reference and Bibliography (1959-1959).

Plummer, Charles Benjamin, D.V.M. (Auburn), Associate Veterinarian, Agricultural Extension Service (1960-1960).

Plunkett, Robert Lee, M.A., Teacher, P.K. Yonge Laboratory School (1960-1960).

Pofahl, Mary Ellen, B.S., Interim Instructor in Physical Education (1960-1960).

Poole, Reid, M.A., Associate Professor of Music and Head of Department (1949-1961).

Poole, Shurley Allen, Jr., B.S.A., Interim Assistant in Agricultural Economics, Agricultural Experiment Station (1960-1960).

Poor, Russell Spurgeon, Ph.D. (Illinois), Provost, Health Center (1952-1953).

Popenoe, Hugh Llywelyn, Ph.D. (Florida), Assistant Professor of Soils, College of Agriculture; Assistant Soils Chemist, Agricultural Experiment Station (1957-1960).

Popenoe, John, Ph.D. (Maryland), Associate Horticulturist, Sub-Tropical Experiment Station (1959-1959).

Post, Don McKenzie, M.S.F., Assistant Professor of Forestry and Assistant Forester, Agricultural Experiment Station (1951-1955).

Potter, Robert Elmer, Ed.D. (Illinois), Assistant Professor of Education (1955-1955).

Potter, William Melville, M.A., Assistant Professor of Physical Education and Tennis Coach (1946-1946).

Pottorf, Mary Elizabeth, M.A., Resident Counselor, Women's Residence Halls (1956-1956).

Powell, Levi Allen, M.S.A., Assistant Agricultural Economist, Agricultural Experiment Station (1952-1952).

Powell, Robert Delafield, Ph.D. (Iowa State), Associate Professor of Botany (1949-1956).

Powell, William James, M.S., Assistant Football Coach (1958-1958).

Powers, Leonard Stewart, LL.M., Professor of Law (1957-1957).

Pratt, Darrell Bradford, Ph.D. (Harvard), Associate Professor of Bacteriology (1953-1956).

Prescott, Ford Lewis, M.E., Professor of Mechanical Engineering (1923 [29-45] [51-57] 1946).

Price, Joseph Edwin, B.A.E., Professor of Social Sciences; Counselor (1931-1956).

Price, Thomas James, Assistant to the Business Manager (1927-1957).

Price, William Conway, Ph.D. (Columbia), Virologist, Citrus Experiment Station (1954-1954).

Priem, Ervin Samuel, B.S.E., Assistant Research Professor, Engineering and Industrial Experiment Station (1952-1952).

Prince, Vivian Christine, M.S., in L.S., Associate Librarian and Head of Technical Processes Department; Associate Professor of Library Science (1943-1952). (On leave 1959-61).

Prine, Gordon Madison, Ph.D. (Ohio State), Assistant Agronomist, Agricultural Experiment Station (1958-1958).

Pritchard, William Roy, D.V.M. (Kansas State), Ph.D. (Minnesota), J.D. (Indiana), Professor of Veterinary Science and Head of Department; Professor of Animal Husbandry; Veterinarian and Head of Department, Agricultural Experiment Station (1957-1957).

Pritchett, William Lawrence, Ph.D. (Iowa State), Soils Technologist, Agricultural Experiment Station (1948 [50-53] 1953).

Probert, Walter, J.S.D. (Yale), Professor of Law (1959-1960). (On leave 1960-61).

Proctor, Samuel, Ph.D. (Florida), Associate Professor of Social Sciences (1946-1958).

Progelhof, Richard Carl, M.S.M.E., Instructor in Mechanical Engineering (1960-1960).

Pruitt, Charles William, M.B.A., Assistant Director, Hospital and Clinics, Health Center (1955-1958).

Prystowsky, Harry, M.D. (Medical College of South Carolina), Professor of Obstetrics and Gynecology and Head of Department (1958-1958).

Pugh, Steve Dent, Jr., B.S., Assistant Editor, Agricultural Extension Service (1960-1960).

Pullen, Veronica Agnes, M.A., Teacher, P.K. Yonge Laboratory School (1958-1958).

Purpura, James Arthur, B.C.E., Assistant in Research, Engineering and Industrial Experiment Station (1958-1958).

Purser, Mary May, M.F.A., Interim Teacher, P.K. Yonge Laboratory School (1959-1959).

Purser, Stuart Robert, M.F.A., Professor of Art (1951-1951).

Putman, Ivan J., Jr., Ph.D. (Columbia), Adviser to Foreign Students and Interim Associate Professor of Education (1952-1960).

Putman, Frank William, Ph.D. (Minnesota), Professor of Biochemistry and Head of Department, College of Medicine (1955-1955).

Pye, Ruby Lee, M.A., Assistant Professor of Physical Education (1949-1954).

Pyles, Thomas, Ph.D. (Johns Hopkins), Professor of English (1948-1948).

Raisz, Erwin, Ph.D. (Columbia), Visiting Research Professor of Geography (1957 [1st semester of 1957-58; 1959-60] 1957).

Ramirez, Adolfo, Ph.D. (Wisconsin), Assistant Professor of Spanish (1948-1956).

Ramseier, Hansruedy, Ph.D. (Zürich), Postdoctoral Research Fellow in Microbiology (1960-1960).

Ramsey, James Cain, Ph.D. (Florida), Associate Research Professor, Engineering and Industrial Experiment Station (1953-1953).

Rappanecker, Caspar, Ph.D. (Cornell), Associate Professor of Geology and Acting Head of Department (1949-1958).

Ray, Clayton Edward, M.A., Interim Assistant Professor of Biology (1959-1959).

Ray, Delmas Dennis, Ph.D. (Florida), Associate Professor of Accounting (1948-1956).

Ray, Francis Earl, D.Sc. (Oxford), Research Professor, Pharmaceutical Chemistry (1949-1949).

Raymond, Walter, B. Arch., Professor of Architecture (1956-1958).

Reaves, Clarence William, M.S.A., Extension Dairy Husbandman, Agricultural Extension Service (1947-1947).

Reddish, Robert Lee, Ph.D. (Texas A&M), Associate Animal Industrialist, Agricultural Extension Service (1955-1957).

Redmond, James Ronald, Ph.D. (California), Assistant Professor of Biology (1956-1956).

Reed, John Clifford, M.E., Professor of Mechanical Engineering and Head of Department (1950-1950).

Reed, Ruddell, Jr., M.S., Associate Professor of Industrial Engineering (1957-1957).

Reed, Thomas McKennan, Ph.D. (Pennsylvania State), Associate Professor of Chemical Engineering and Associate Research Professor, Engineering and Industrial Experiment Station (1952-1956).

Reed-Hill, Robert Ellis, D.Sc. (Yale), Associate Research Professor, Engineering and Industrial Experiment Station (1960-1960).

Reeves, Frank Blair, M.A., Assistant Professor of Architecture (1949-1952).

Reeves, John D., M.D. (Arkansas), Professor of Radiology and Head of Department (1958-1958).

Regan, Mary Joan, M.Ed., Interim Instructor in Humanities (1959-1959).

Regan, Peter F., M.D. (Cornell), Professor of Psychiatry and Head of Department (1958-1958).

Rehling, Conrad Henry, M.Ed., Assistant Professor of Physical Education and Golf Coach (1949-1952).

Reichert, Stanley Orville, D.Sc. (Colorado School of Mines), Assistant Professor of Mechanical Engineering and Assistant Research Professor, Engineering and Industrial Experiment Station (1956-1956).

Reid, Charles Edward, Ph.D. (Louisiana State), Associate Professor of Chemistry (1948-1955).

Reid, William Alan, M.D. (North Carolina), Intern in Surgery (1960-1960).

Reisinger, Richard Henry, M.R.H., Assistant Professor of Physical Education (1952-1956).

Reitz, Herman J., Ph.D. (Ohio State), Horticulturist in Charge, Citrus Experiment Station (1946-1957).

Reitz, J. Wayne, Ph.D. (Wisconsin), LL.D. (Tusculum), LL.D. (University of Miami), D.Sc. (Jacksonville University), President of the University (1934 [44-49] 1955).

Remillet, June Gordon, M.A., Instructor in Nursing (1959-1959).

Rethlingshafer, Dorothy Adelaide, Ph.D. (North Carolina), Associate Professor of Psychology (1947-1947).

Reuss, Lawrence Adkins, M.S., Agricultural Economist, U.S.D.A., Agricultural Experiment Station (1954-1954).

Reynolds, Mable Marie, M.A., B.S. in L.S., Assistant Librarian, Technical Processes (1949-1955).

Rhines, Frederick Nims, Ph.D. (Yale), Research Professor and Head, Metallurgical Research Laboratory, Engineering and Industrial Experiment Station (1959-1960).

Rhoades, Harlan L., Ph.D. (Illinois), Assistant Nematologist, Central Florida Experiment Station (1959-1959).

Rhoades, Winfred Carl, M.S., Entomologist in Charge, North Florida Experiment Station (1949-1952).

Rice, Walter Durant, B.S.F., Instructor in Forestry, State Forest Ranger School (1955-1955).

Richardson, James Gilbert, M.A., Associate Professor of Finance (1946-1957).

Richardson, Joe Bryon, M.S., Assistant Professor of Agricultural Engineering and Assistant Agricultural Engineer, Agricultural Experiment Station (1954-1954).

Richart, Frank Edwin, Ph.D. (Illinois), Professor of Civil Engineering and Research Professor, Engineering and Industrial Experiment Station (1952 [59-60] 1954).

Riemer, William John, Ph.D. (California), Associate Curator of Biological Sciences, Florida State Museum, and Assistant Professor of Biology (1955-1960).

Riggan, Wilson Butler, B.S., Assistant Professor of Agricultural Economics and Assistant Agricultural Economist, Agricultural Experiment Station (1958-1958).

Riggs, Charles Henry, Ph.D. (Columbia), Assistant Professor of Logic (1957-1957).

Riker, Harold Clark, Ed.D. (Columbia), Director of Housing (1938-1946).

Riley, Bert Clair, B.A., B.S.A., (LL.D. [Honorary] Franklin), Dean of the General Extension Division (1919-1928).

Ring, Alfred A., Ph.D. (New York), Professor of Real Estate and Head of Department; University Appraiser (1947-1960).

Ring, Wade, M.Ed., Teacher, P.K. Yonge Laboratory School (1958-1958).

Rion, William E., M.A., Director of Florida Union (1945-1948).

Ritchey, Shirley Ann, B.A.E., Interim Teacher, P.K. Yonge Laboratory School (1960-1960).

Ritchie, John A., M.D. (Pennsylvania), Lecturer in Psychiatry (1959-1959).

Rivera, Cesar Luis, M.A., Teacher, P.K. Yonge Laboratory School (1960-1960).

Robbins, Charles Lewis, M.S., Instructor in Sociology (1956-1960).

Robbins, Ralph Compton, Ph.D. (Illinois), Assistant Professor of Food Technology and Nutrition and Associate Biochemist, Agricultural Experiment Station (1959-1960).

Roberts, Daniel Altman, Ph.D. (Cornell), Associate Professor of Plant Pathology and Associate Plant Pathologist, Agricultural Experiment Station (1959-1959).

Roberts, Donald Rowland, Jr., M.D. (Georgia), Assistant in Surgery (1960-1960).

Roberts, Henry Lamar, M.D. (Duke), Ph.D. (McGill), Associate Professor of Surgery and Chief of the Division of Neurosurgery (1958-1958).

Roberts, Leonidas Howard, Ph.D. (Florida), Assistant Professor of Physical Sciences (1949-1953).

Robertson, Charles Archibald, M.A., Litt.D. (University of the South), Professor of English and Head of Department (1922-1946).

Robertson, Malcolm Higgins, Ph.D. (Purdue), Assistant Professor of Psychology (1958-1958).

Robertson, William Kitchener, Ph.D. (Purdue), Associate Chemist, Agricultural Experiment Station (1950-1956).

Robinson, Frank Albert, M.S., Assistant Apiculturist, Agricultural Experiment Station (1950-1950).

Roderick, William Rodney, Ph.D. (Chicago), Assistant Professor of Chemistry (1958-1958).

Rodgers, Franklin Cullen, B.S., Assistant Coach (1960-1960).

Rodgers, Earl Gilbert, Ph.D. (Iowa State), Professor of Agronomy and Agronomist, Agricultural Experiment Station (1946-1959).

Rogero, Kathryn Duggan, M.A. in L.S., Assistant in Library, Technical Processes (1956 [57-58] 1956).

Rogers, Clarence J., M.Ag., Assistant Professor of Agricultural Engineering (1953-1954).

Rorebeck, Curtis Gantt, M.D. (Emory), Lecturer in Obstetrics and Gynecology (1959-1959).

Rose, Gillis Norman, B.S., Associate Agricultural Economist, Agricultural Experiment Station (1943-1945).

Rosen, Donn Eric, Ph.D. (New York University), Assistant Professor of Biology; Assistant Curator of Biological Sciences, Florida State Museum (1960-1960).

Rosenberger, Stanley Eugene, M.Ag., Associate Marketing Specialist in Vegetable Crops, Agricultural Extension Service (1947 [48-49] 1957).

Rosier, Nelson Eugene, B.E.E., Research Associate in Electrical Engineering and Engineering and Industrial Experiment Station (1955-1957).

Ross, Claudius Allen, M.S.A.E., Interim Instructor in Aeronautical Engineering (1958-1958).

Ross, Elizabeth Maxine, M.A., Interim Instructor in English (1957-1957). (On leave 1960-61).

Ross, Ira Joseph, Ph.D. (Purdue), Assistant Professor of Agricultural Engineering and Assistant Agricultural Engineer, Agricultural Experiment Station (1959-1959).

Rothwell, Donald Frederick, Ph.D. (Purdue), Associate Professor of Soils (1948-1958).

Rouse, Alvin Hamilton, M.S., Pectin Chemist, Citrus Experiment Station (1949-1958).

Roush, Marjorie Anne, M.A., Resident Counselor, Women's Residence Halls (1960-1960).

Row, Andrew William, M.A., Instructor in Mathematics (1958-1958).

Rowe, Gene A., B.S.A., Agricultural Statistician, U.S.D.A., Agricultural Experiment Station (1955-1955).

Royer, King, B.S.C.E., Instructor in Building Construction (1960-1960).

Ruehle, George Dewey, Ph.D. (Washington State), Vice Director in Charge, Sub-Tropical Experiment Station (1930-1944).

Ruelke, Otto Charles, Ph.D. (Wisconsin), Assistant Professor of Agronomy and Assistant Agronomist, Agricultural Experiment Station (1955-1955).

Ruff, William, Ph.D. (Yale), Professor of Humanities (1946-1955).

Ruffin, William Cain, Jr., M.D. (North Carolina), Instructor in Psychiatry (1959-1959).

Rummel, Raymond Alfred, B.S., Assistant in Research, Engineering and Industrial Experiment Station (1959-1959).

Rushton, Francis Edwards, M.D. (Virginia), Instructor and Chief Resident in Pediatrics (1960-1960).

Ryschkewitsch, George E., Ph.D. (Ohio State), Assistant Professor of Chemistry (1956-1956).

Sabatella, Joseph J., M.F.A., Interim Instructor in Architecture (1959-1959).

Sachs, Kelvin Norman, Jr., Ph.D. (Cornell), Instructor in Geology (1960-1960).

Sadler, Samuel Gould, Ed.D. (Florida), Associate Professor of Mathematics (1954-1954).

Sagawa, Yoneo, Ph.D. (Connecticut), Assistant Professor of Botany and Assistant Botanist, Agricultural Experiment Station (1957-1957).

Salt, Ellis Benton, Ed.D. (New York), Professor of Professional Physical Education (1930-1937).

Samuel, John Alton, M.S.E., Assistant Professor of Mechanical Engineering (1954-1954).

Sandefur, Wayne Thomas, H.S.D. (Indiana), Associate Professor of Professional Physical Education and Head, Department of the Professional Curriculum (1953-1959).

Sanders, Dorsey Addren, D.V.M. (Kansas State), Veterinarian, Agricultural Experiment Station (1925-1932).

Sarakatsannis, Leonidas Nickolas, M.M., Instructor in Music (1959-1960).

Sarle, Charles Faye, Ph.D. (Columbia), Professor of Agricultural Economics and Statistical Consultant, Statistical Laboratory (1957 [59-60] 1957).

Sashoff, Stephen Pencheff, M.S., Professor of Electrical Engineering (1932-1946).

Savage, Robert Garner, M.S., Instructor in Mathematics (1960-1960).

Savage, Zach, M.S.A., Agricultural Economist, Agricultural Experiment Station (1931-1954).

Saville, Thorndike, M.S., (D. Eng. [Honorary] Clarkson and Syracuse), Consultant, Nuclear Engineering (1958-1960).

Sawyer, Donald Albert, Ph.D. (Florida), Assistant Professor of Civil Engineering (1954-1959).

Sawyer, Earl Morrow, Ph.D. (Florida), Assistant Professor of Physics (1947-1953).

Sawyer, William Lincoln, M.S., Professor of Engineering Mechanics and Head of Department (1929-1949).

Scarborough, Earl Marvin, M.P.H., Assistant Football Coach (1956-1956).

Scates, Douglas Edgar, Ph.D. (Chicago), Professor of Education and Consultant, Statistical Laboratory (1953-1953).

Schacht, Robert Charles, B.S., Interim Instructor of Education (1960-1960).

Schaeberle, Frederick W., M.B.A., Instructor in Accounting (1960-1960).

Schaechter, Moselio, Ph.D. (Pennsylvania), Assistant Professor of Microbiology (1958-1959).

Schaffer, Nile Clarett, Preparator, Florida State Museum (1942-1942).

Schapiro, Herbert, M.S., Research Associate in Surgery in Charge of Experimental Surgery Suite (1958-1958).

Schenck, Norman Carl, Ph.D. (Illinois), Assistant Plant Pathologist, Watermelon and Grape Investigations Laboratory (1956-1956).

Schiebler, Gerold L., M.D. (Harvard), Ph.D. (Minnesota), Assistant Professor of Pediatrics (1960-1960).

Schmertmann, John Henry, M.S.C.E., Assistant Professor of Civil Engineering and Assistant Research Professor, Engineering and Industrial Experiment Station (1956-1956).

Schmidt, Doris Theodotia, M.A., Professor of Music (1949-1957).

Schmidt, Richard P., M.D. (Louisville), Associate Professor of Medicine (1958-1958).

Schneider, Nathan J., Ph.D. (Pittsburgh), Assistant Professor of Bacteriology (1954-1954).

Schoch, Eugene Walter, M.Ed., Resident Counselor, Men's Residence Halls (1957-1957). (On leave 1960-61).

Schoch, Wilfred Leroy, Superintendent of Construction (1935-1935).

Schoessow, Glen John, M.S.M.E., Professor of Nuclear Engineering (1958-1958).

Schoonmaker, Lucas Elmendorf, B.S.E.E., Associate Professor of Electrical Engineering (1947-1952).

Schoppmeyer, Martin William, M.Ed, Interim Instructor of Education (1960-1960).

Schrader, Hans William, M.S., Assistant in Research, Physics (1945-1960).

Schroder, Vincent Nils, Ph.D. (Duke), Assistant Agronomist and Assistant Professor of Agronomy, Agricultural Experiment Station (1955-1955).

Schultz, Everett Hoyls, Jr., M.D. (Bowman Gray), Assistant Professor of Radiology (1958-1958).

Schumacher, Audrey Sims, Ph.D. (Western Reserve), Professor of Psychology (1958-1958).

Schumacher, Henry Cyril, M.D. (St. Louis), (LL.D. [Honorary] St. Benedict's College), University Psychiatrist and Associate Professor of Psychiatry (1957-1960).

Schwab, John J., M.D. (Louisville), Special Trainee and Assistant in Psychiatry (1959-1960).

Schwarz, George Carl, M.D. (Duke), Intern in Pediatrics (1960-1960).

Schweyer, Herbert English, Ph.D. (Columbia), Professor of Chemical Engineering and Research Professor, Engineering and Industrial Experiment Station (1946-1950).

Sciadini, Frank, M.A., Instructor of Logic (1960-1960).

Scott, Linus Albert, Ph.D. (Case), Assistant Professor of Mechanical Engineering and Assistant Research Professor, Engineering and Industrial Experiment Station (1948 [58-60] 1952).

Scott, Ned Hobson, M.B.A., Interim Assistant Professor of Accounting (1947-1957).

Scott, Thomas A., Ph.D. (Harvard), Assistant Professor of Physics (1958-1958).

Scott, Thomas E., Jr., M.D. (Tennessee), Lecturer in Neuroanatomy (1958-1958).

Scott, Thomas McDonald, M.A.E., Assistant Professor of Physical Education (1949-1952).

Scrafford, Ralph A., Ed.D. (Pennsylvania State), Associate Professor of Education (1957-1957).

Scrimgeour, Gary James, M.A., Instructor in English (1959-1959).

Scudder, Delton Lewis, Ph.D. (Yale), Professor of Religion and Head of Department (1946-1946).

Scudder, Walter T., Ph.D. (Cornell), Associate Horticulturist, Central Florida Experiment Station (1955-1955).

Seaberg, Lillian Marie, M.A., B.S. in L.S., Assistant Librarian, Reference and Bibliography (1949-1955).

Seale, Charles Colin, B.I.C.T.A. (Imperial, B.W.I.), Associate Agronomist, Everglades Experiment Station (1945-1946).

Seaman, Donald Edward, Ph.D. (Purdue), Assistant Plant Physiologist, U.S.D.A., Everglades Experiment Station (1958-1958).

Sears, William Hulse, Ph.D. (Michigan), Associate Curator of Social Sciences, Florida State Museum (1955-1957).

Sebold, Howard Robinson, M.L.A., Professor of Landscape Architecture (1948 [49-52] 1955).

Sebring, Leila Louise, M.S., Assistant in Library, Citrus Experiment Station (1959-1959).

Sechler, Dale Truman, Ph.D. (Missouri), Assistant Agronomist, North Florida Experiment Station (1960-1960).

Seil, Manning David, M.S., Associate Professor of Journalism and Communications (1953-1953).

Sellers, Frances Evelyn, M.A., Assistant Dean of Women (1949-1951).

Sellers, Robert Ernest, B.A., Interim Instructor in Mathematics (1959-1959).

Senn, Pettus Holmes, Ph.D. (Wisconsin), Professor of Agronomy and Head of Department (1929-1939).

Shaffer, Charles Vernon, M.S.E., Associate Professor of Electrical Engineering (1946 [59-60] 1951).

Shaffer, Michael Reid, M.S.Ch.E., Instructor in Chemical Engineering (1957-1957).

Shanklin, Douglas R., M.D. (New York State), Instructor in Pathology (1960-1960).

Sharpe, Miles Hervey, Ph.D. (Pennsylvania State), Associate Editor, Agricultural Extension Service (1955-1960).

Sharpe, Ralph Harold, M.S., Horticulturist, Agricultural Experiment Station (1948-1960).

Shaw, Marvin Evert, Ph.D. (Wisconsin), Associate Professor of Psychology (1959-1959).

Shaw, Ray Munson, B.B.A., Assistant to the Director of Finance and Accounting, Health Center (1958-1960).

Sheckles, Mary Elmyra, Ed.D. (Columbia), Assistant Professor of Education (1958-1958).

Sheehan, Thomas John, Ph.D. (Cornell), Assistant Ornamental Horticulturist, and Assistant Professor of Ornamental Horticulture, Agricultural Experiment Station (1954-1954).

Sherouse, Ray Truman, Assistant Meteorologist, Weather Forecasting Service, U.S.W.B. (1935-1935).

Shields, Murray William, Ph.D. (Washington), Professor of Economics (1946-1949).

Shipp, Joseph Calvin, M.D. (Columbia), Assistant Professor of Medicine (1960-1960).

Shirley, Ray Louis, Ph.D. (Michigan State), Professor of Animal Husbandry and Nutrition; Biochemist, Agricultural Experiment Station (1949 [51-53] 1949).

Shoemaker, James Sheldon, Ph.D. (Minnesota), Horticulturist, Agricultural Experiment Station (1956-1956).

Sholtes, Robert Stephen, M.S.M.E., Assistant Professor of Mechanical Engineering (1957-1957). (On leave 1959-61).

Showalter, Robert Kenneth, M.S., Professor of Food Technology and Nutrition and Horticulturist, Agricultural Experiment Station (1945-1956).

Sievers, Allen Morris, Ph.D. (Columbia), Professor of Economics (1954-1956).

Sikes, Anna Mae, M.S., State Home Demonstration Agent, Agricultural Extension Service, Tallahassee (1928-1950).

Silver, Warren Seymour, Ph.D. (Johns Hopkins), Assistant Professor of Bacteriology (1956-1956).

Simanton, William Aldrich, Ph.D. (Iowa State), Entomologist, Citrus Experiment Station (1950-1950).

Simmons, Glenn Ballard, Ph.D. (Johns Hopkins), Professor of Education and Head of Off-Campus Instruction (1928-1949).

Simons, Joseph H., Ph.D. (California), Professor of Chemical Engineering and Chemistry; Research Professor and Coordinator of Fluorine Research, Engineering and Industrial Experiment Station (1950-1950).

Simpson, Charles Floyd, D.V.M. (Cornell), Professor of Veterinary Science and Veterinarian, Agricultural Experiment Station (1948-1957).

Sims, George Rudd, M.B.A., Assistant Professor of Marketing (1957-1957).

Sisler, Harry H., Ph.D. (Illinois), Professor of Chemistry and Head of Department (1956-1956).

Sites, John Wilbur, Ph.D. (Ohio State), Associate Director and Horticulturist, Agricultural Experiment Station (1942-1960).

Skaggs, Allen Orrin, Jr., B.A.J., Director, Editor, News Bureau (1942-1950).

Skinner, Thomas Cobb, M.Ag., Associate Agricultural Engineer, Agricultural Extension Service (1947-1953).

Skjellum, Hazel Lee, M.A., Assistant in Library, Technical Processes (1960-1960).

Skoglund, Henry Leonard, M.A., Instructor in Humanities (1955 [59-61] 1955).

Slaughter, John Eidell, B.S., Interim Instructor in Social Sciences (1959-1959).

Sloan, Norman Leslie, B.S., Head Basketball Coach (1960-1960).

Slotnick, Irving James, Ph.D. (Southern California), Assistant Professor of Clinical Microbiology, College of Health Related Services; Director, Clinical Microbiology Laboratories, Teaching Hospital (1959-1959).

Small, Kenneth F., Director, Radio Station WRUF (1956-1956).

Smallwood, Mark Harrison, B.E.E., Instructor in Electrical Engineering (1958-1958).

Smith, Alexander Goudy, Ph.D. (Duke), Professor of Physics (1948-1956).

Smith, Bernard Sidney, M.A., Instructor in Humanities (1959-1959).

Smith, Cecil Nuckols, Ph.D. (California), Associate Professor of Agricultural Economics and Associate Agricultural Economist, Agricultural Experiment Station (1952-1952).

Smith, Charles Bassel, Ph.D. (Wisconsin), Professor of Mathematics (1946-1951).

Smith, Charles D., B.A., Assistant Professor of Economics (1956-1956).

Smith, Darwin W., Ph.D. (Calif. Inst. Tech.), Assistant Professor of Chemistry (1960-1960).

Smith, Dorothy Mary, M.Ed., Dean of the College of Nursing, Chief of the Nursing Staff, and Professor of Nursing (1956-1956).

Smith, Donald Dewey, M.D. (Duke), Intern in Pediatrics (1960-1960).

Smith, Edward Frank, E.E., Associate Professor of Electrical Engineering (1928-1937).

Smith, Frederick Burean, Ph.D. (Iowa State), Professor of Soils and Head of Department; Microbiologist and Head of Department, Agricultural Experiment Station (1937-1944).

Smith, J. Graham, B.A., Instructor in Economics (1960-1960).

Smith, James Harvey, Ph.D. (Tulane), Instructor of Logic and English (1959-1959).

Smith, James Hunn, M.S.M.E., Assistant Professor of Engineering Graphics (1947-1952).

Smith, Jo Anne, M.A., Instructor in Journalism and Communications (1959-1959).

Smith, Kenneth L., Ph.D. (Missouri), Assistant Professor of Dairy Manufacturing and Assistant Dairy Technologist, Agricultural Experiment Station (1960-1960).

Smith, Nathan Lorenz, M.S., Research Associate in Chemistry (1957-1957).

Smith, Paul Howard, Ph.D. (California), Assistant Professor in Bacteriology and Biological Sciences (1959-1960).

Smith, Ralph Leslie, M.S., Associate Agronomist, West Florida Experiment Station (1943-1943).

Smith, Reynolds Belden, Ph.D. (New York State College of Forestry), Associate Professor of Wood Technology and Associate Forester (1949-1949).

Smith, Ricahrd T., M.D. (Tulane), Professor of Pediatrics and Head of Department (1958-1958).

Smith, T. Lynn, Ph.D. (Minnesota), Graduate Research Professor of Sociology (1949-1949).

Smith, Vernon S., Jr., B.S., Professor of Air Science (1959-1959).

Smith, William Ward, Ph.D. (Tulane), Assistant Professor of Entomology (1957-1957).

Smith, Winston Oliver, Ph.D. (Purdue), Professor of Mechanical Engineering (1955-1955).

Snow, John W., M.D. (Duke), Assistant in Surgery (1959-1959).

Solley, William Howard, P.E.D. (Indiana), Associate Professor of Professional Physical Education (1957-1957).

Soper, Daniel William, Ph.D. (Syracuse), P.K. Yonge School Psychologist; Associate Professor of Education; Associate, University Counseling Center (1952-1957).

Soule, Mortimer James, Jr., Ph.D. (Florida), Associate Professor of Fruit Crops (1956-1956).

South, Dudley Eugene, Ph.D. (Michigan), Professor of Mathematics (1952-1952).

Sowers, William Dean, B.S., Interim Teacher, P.K. Yonge Laboratory School (1960-1960).

Spache, George Daniel, Ph.D. (New York), Head of Reading Laboratory and Clinic and Professor of Education and English (1950-1950).

Spangler, Bryon Dement, M.S.E., Associate Professor of Civil Engineering and Associate Research Professor, Engineering and Industrial Experiment Station (1949-1956).

Spanier, John Winston, Ph.D. (Yale), Assistant Professor of Social Sciences and Political Science (1957-1958).

Sparks, Thomas Wilson, M.Ag., Assistant Dairy Husbandman, Agricultural Extension Service (1952--1954).

Spears, William Davis, Ph.D. (Peabody), Associate Professor of Education (1956-1959).

Spencer, Ernest Leavitt, Ph.D. (Rutgers), Soils Chemist in Charge, Gulf Coast Experiment Station (1943-1950).

Spencer, John Richard, Ph.D. (Yale), Associate Professor of Art and Acting Head of Department of Art (1958-1960).

Spencer, William Franklin, Ph.D. (Illinois), Associate Soils Chemist, Citrus Experiment Station (1951 [54-57] 1957).

Spinks, Daniel Owen, Ph.D. (North Carolina State), Associate Professor of Soils (1947-1956).

Spurlock, Alvin Harold, M.S.A., Agricultural Economist, Agricultural Experiment Station (1934-1953).

Stainsby, Wendell Nicholls, D.Sc. (Johns Hopkins), Assistant Professor of Physiology, College of Medicine (1957-1960).

Stakely, James Owen, B.S.Arch., Associate Professor of Building Construction (1955-1955).

Stall, Robert Eugene, Ph.D. (Ohio State), Assistant Plant Pathologist, Everglades Experiment Station (1957-1957).

Stambaugh, James Philip, B.A.E., Captain, Assistant Professor of Air Science (1958-1958).

Standley, George Brent, Ph.D. (Buffalo), Associate Professor of Logic and Humanities (1960-1960).

Stanley, Dennis Keith, M.A.E., Dean of the College of Physical Education and Health, and Professor of Physical Education (1931 [39-46] 1946).

Stanley, Richard Eugene, M.B.A., Interim Instructor of Marketing (1958-1958).

Starns, Matilda Thompson, B.S. in L.S., Assistant in Library, Acquisitions (1957-1957).

Starr, Nathan Comfort, Ph.D. (Harvard), Professor of English and Humanities (1953-1953).

Stater, Stanley Vernon, M.A., Major, Assistant Professor of Air Science (1959-1959).

Staub, August William, Ph.D. (Louisiana State), Assistant Professor of Speech (1960-1960).

Stearns, Thomas Wesley, Ph.D. (Minnesota), Professor of Agricultural Chemistry (1946-1955).

Stenger, Vincent George, M.D. (Johns Hopkins), Assistant in Obstetrics and Gynecology (1959-1959).

Stephens, Foy Woodrow, M.P.H., Assistant Professor of Physical Education (1952-1956).

Stephens, John C., B.S., Drainage Engineer, U.S.D.A., Everglades Experiment Station (1950-1950).

Stephens, Richard Badenoch, LL.B., Professor of Law (1949 [58-60] 1954).

Sterba, Richard Ludwick Anton, M.A., Assistant Professor of Economics (1956-1956).

Sterling, Hugo Otto, M.S., Assistant Horticulturist, Citrus Experiment Station (1942-1942).

Sterling, Robert Raymond, M.B.A., Instructor in Accounting (1957-1957). (On leave 1959-61).

Sterrett, Delbert Ellingsworth, Ed.D. (Peabody), Assistant Professor of Music (1948-1951).

Stetson, Robert Franklin Ph.D. (Virginia), Assistant Professor of Physics and Nuclear Engineering (1959-1959).

Stevens, Billie Knapp, M.A., Professor of Professional Physical Education (1936-1954).

Stevenson, Katherine Louise Gebhard, M.S., Instructor in Radiation Biology (1960-1960).

Stewart, Edwin Lewers, M.D. (North Carolina), Assistant in Medicine (1959-1960).

Stewart, Ernest Harold, M.S., Associate Soils Physicist, U.S.D.A., Everglades Experiment Station (1960-1960).

Stewart, Ivan, Ph.D. (Rutgers), Associate Biochemist, Citrus Experiment Station (1951-1955).

Stewart, William Addison, B.Arch., Assistant Professor of Architecture (1955-1958).

Stockstill, Roy Edward, B.S., Assistant Professor of Engineering Graphics (1955-1957).

Stoliker, Harry E., D.V.M. (Michigan State), Assistant Professor of Veterinary Science and Supervisor of Health Center Animal Department (1958-1958).

Stone, William Morgan, Jr., M.S., Assistant in Parisitology, Agricultural Experiment Station (1951-1951).

Stone, Williard E., Ph.D. (Pennsylvania), Professor and Head of Department of Accounting (1960-1960).

Storer, Morris Brewster, Ph.D. (Harvard), Professor of Humanities (1947-1947).

Stoufer, Robert Carl, Ph.D. (Ohio State), Assistant Professor of Chemistry (1958-1958).

Stover, Loren Haight, Assistant in Horticulture, Watermelon and Grape Investigation Laboratory (1951-1951).

Straub, Darel Kerr, Ph.D. (Illinois), Research Associate in Chemistry (1960-1960).

Streetman, Frank Marcus, M.A., Interim Instructor in Humanities (1959-1959).

Strickland, Albert Carsen, M.S., Assistant in Library, Agricultural Experiment Station (1958-1958).

Strickland, Ray Kenneth, M.S.F., Interim Assistant in Forestry, Agricultural Experiment Station (1960-1960).

Stripling, Robert Olin, Ed.D. (Columbia), Professor of Education and Head of Personnel Services (1941-1956).

Strobel, James Walter, Ph.D. (Washington State), Assistant Plant Pathologist, Sub-Tropical Experiment Station (1959-1959).

Stryker, Philip David, Ph.D. (Northwestern), Associate Professor of English (1947-1956).

Stubblebine, Albert Newton, B.S., Lecturer and Research Associate, College of Engineering (1957-1957).

Stump, Charles Albert, M.D. (George Washington), Instructor and Chief Resident in Obstetrics and Gynecology (1959-1959).

Suit, Ross Frisbie, Ph.D. (Iowa State), Plant Pathologist, Citrus Experiment Station (1945-1946).

Sullivan, Edward Thomas, D.F. (Duke), Associate Professor of Forest Economics and Associate Forester (1959-1959).

Summerlin, James Edward, B.B.C., Interim Instructor in Building Construction (1960-1960).

Summerlin, Winston Lee, M.D. (Maryland), Lecturer in Obstetrics and Gynecology (1959-1959).

Summers, Thomas E., Ph.D. (Iowa State), Associate Plant Pathologist, U.S.D.A., Everglades Experiment Station (1958-1958).

Sung, Ya-fen Lee, M.Ed., Artist, Florida State Museum (1959-1959).

Sunwall, James Raymond, M.A., Assistant Professor of Humanities (1957-1957). (On leave 1960-61).

Suter, Elsi R., M.D. (Basle), Interim Research Associate in Medicine, College of Medicine (1957-1957).

Suter, Emanuel, M.D. (Basle), Professor of Microbiology and Head of Department, College of Medicine (1956-1956).

Sutherland, Alan Duryea, Ph.D. (Illinois), Interim Lecturer of Electrical Engineering (1958-1958).

Svarlien, Oscar, Ph.D. (North Carolina), Professor of History and Political Science (1946 [59-60] 1955).

Swanson, Daniel Cramer, Ph.D. (Cornell), Professor of Physics (1929-1949).

Swanson, Leonard Erwin, D.V.M. (Ohio State), Professor of Parasitology and Parasitologist, Agricultural Experiment Station (1941-1941).

Swett, Manette, M.A., Instructor, P.K. Yonge Laboratory School (1948-1953).

Swinford, Kenneth Roberts, M.S.F., Professor of Forest Management and Forester (1946-1960).

Sykes, Christa Marie, M.L.S., Assistant Librarian, Health Center Library (1959-1959).

Tams, Madge Penton, B.A. in L.S., Assistant Librarian, Reference and Bibliography (1958-1958).

Tappan, William Burgess, M.S.A., Assistant Entomologist, North Florida Experiment Station (1955-1955).

Tarjan, Armen Charles, Ph.D. (Maryland), Nematologist, Citrus Experiment Station (1955-1958).

Tarrant, Paul, Ph.D. (Duke), Professor of Chemistry (1946-1957).

Tarver, Fred Russell, Jr., M.S., Assistant Professor of Poultry Husbandry and Assistant Poultry Husbandman, Agricultural Experiment Station (1956-1956). (On leave 1960-61).

Taylor, Carolyn Dickinson, M.A., Research Associate in Nursing (1959-1959).

Taylor, Edwin Stewart, M.A., Assistant Director of Admissions (1953-1955).

Taylor, Grace Elizabeth, M.A., Assistant Law Librarian (1952-1955).

Taylor, James Lloyd, M.S.A., Assistant Ornamental Horticulturist, Agricultural Extension Service (1960-1960).

Taylor, John W., Visiting Professor of Art (1960-1960).

Taylor, Thomas Elliott, M.S., Teaching Assistant in Chemistry (1956-1956).

Taylor, William Charles, B.S., Captain, Assistant Professor of Air Science (1959-1959).

Taylor, William Jape, M.D. (Harvard), Assistant Professor of Medicine and Chief of Cardiology (1958-1958).

Teeters, Samuel Boyd, M.A., Instructor in Music (1959-1960).

Teller, Aaron J., Ph.D. (Case), Consultant in Chemical Engineering (1956-1960).

Teller, Morton Herman, M.A.E., Curator of Physics (1943 [44-46] 1949).

Tew, Roy Edwards, Ph.D. (Ohio State), Associate Professor of Speech; Associate, Speech and Hearing Clinic (1937-1955); Acting Head of Department (1960).

Thayer, Paul Loyd, Ph.D. (Ohio State), Assistant Plant Pathologist, Everglades Experiment Station (1958-1958).

Thomas, Billy Seay, Ph.D. (Vanderbilt), Assistant Professor of Physics (1960-1960).

Thomas, Charles Kenneth, Ph.D. (Cornell), Professor of Speech (1958-1958).

Thomas, Frank H., Ph.D. (Georgia), Assistant Soils Chemist, Everglades Experiment Station (1959-1959).

Thomas, William Clark, M.D. (Johns Hopkins), Lecturer in Obstetrics and Gynecology (1959-1959).

Thomas, William Clark, Jr., M.D. (Cornell), Assistant Professor of Medicine and Director of Post-Graduate Education, College of Medicine (1957-1957).

Thomason, Oliver Bruce, Ph.D. (Pennsylvania State), Professor-Chairman of Rehabilitation Counseling, College of Health Related Services (1942 [45-51] 1956).

Thompson, Anne Elizabeth, M.Ed., Interim State Girls' 4-H Club Agent, Agricultural Extension Service, Tallahassee (1957-1959).

Thompson, Arthur William, Ph.D. (Columbia), Associate Professor of History (1946-1955).

Thompson, Buford Dale, Ph.D. (Florida), Associate Professor of Vegetable Crops and Associate Horticulturist, Agricultural Experiment Station (1948 [51-54] 1960).

Thompson, Leonard Garnett, Jr., Ph.D. (Iowa State), Soil Chemist, North Florida Experiment Station (1945-1945).

Thompson, Ralph Burnham, Ph.D. (Texas), Professor of Marketing (1955-1960).

Thompson, William Louden, B.S., Entomologist, Citrus Experiment Station (1927-1944).

Thornton, George Daniel, Ph.D. (Iowa State), Assistant Dean, College of Agriculture, and Professor of Soils (1941-1956).

Thralls, Miriam Clare, B.A., Instructor in Occupational Therapy, Chief Occupational Therapist, Teaching Hospital (1959-1960).

Thurston, Paul Thayer, B.S., Instructor in English (1957-1957).

Tiffin, William Truitt, M.S.M.E., Professor of Mechanical Engineering and Research Professor, Engineering and Industrial Experiment Station (1944 [45-47] 1954).

Tilley, John Leonard, M. Ed., Instructor in Mathematics (1953-1960).

Tilley, Wesley Hope, Jr., M.A., Assistant Professor of Humanities (1949-1949).

Tillman, Mary Elizabeth, M.Ln., Assistant in Library, Technical Processes (1957-1957).

Tillman, Wiley James, B.S.Arch., Assistant Professor of Architecture (1952-1954). (On leave 1960-61).

Timmerman, Eugene Melvin, Ph.D. (South Carolina), Assistant Professor of Education (1960-1960).

Ting, Sik Vung, Ph.D. (Ohio State), Associate Biochemist, Citrus Experiment Station (1953-1960).

Tison, Jean Pieper, M.A.E., Instructor in Education (1936-1948).

Tissot, Archie Newton, Ph.D. (Ohio State), Entomologist and Head of Department, Agricultural Experiment Station (1925-1946).

Tittle, Audrey C., M.A., Interim Instructor in Journalism and Communications (1958 [59-60] 1958).

Torraca, Pasquale Mario, M.Arch., Professor of Architecture (1947-1950).

Townsend, Julius Charles, Jr., B.S., Agricultural Statistician, U.S.D.A., Agricultural Experiment Station (1945-1945).

Townsend, Kenneth Graham, B.S.A., Assistant in Entomology-Pathology, Citrus Experiment Station (1950-1950).

Townsend, Ruth Overstreet, R.N., Assistant in Nutrition, Agricultural Experiment Station (1938 [44-55] 1938).

Traupane, Philip Eugene, B.S., Captain, Infantry, Assistant Professor of Army Science (1960-1960).

Travis, David Monroe, M.D. (Vanderbilt), Assistant Professor of Pharmacology and Therapeutics and Assistant Professor of Medicine (1958-1958).

Traxler, Felicia W., M.A., Instructor in Information and Service, General Extension Division (1928-1828).

Trexler, Charles D., M.B.A., Assistant Director (in Charge of Diagnostic Clinic and Private Patient Services), Teaching Hospital and Clinics (1960-1960).

Trimmer, John Morris, B.S.E.E., Teaching Associate in Building Construction (1958-1960).

Troupin, Edward Charles, M.M., Interim Assistant Professor of Music (1960-1960).

Trubert, Marc Roger Pierre, M.S., Assistant in Research, Engineering and Industrial Experiment Station (1958-1958).

Trujillo, Vidal, M.A., Assistant Professor, P.K. Yonge Laboratory School (1944 [55-57] 1945).

Tschorn, Frank Henry, M.E., Assistant Professor of Building Construction (1958-1958).

Tucker, Daniel Noe, Jr., M.D. (Duke), Assistant in Medicine (1959-1959).

Tucker, Robert Hoyle, B. Arch., Interim Instructor in Architecture (1960-1960).

Tucker, William Burns, M.S., Interim Instructor in Mathematics (1958-1958).

Tunison, Paul Bliss, M.Ed., Assistant Professor of Physical Sciences (1954-1959).

Turner, Gary E., M.D. (Medical College of South Carolina), Lecturer in Psychiatry (1959-1959).

Turner, Glover Manuel, LL.B., Assistant Dean of the General Extension Division in Charge of Extension Class Teaching (1929-1945).

Turner, Robert Orion, M.S., Interim Principal, P.K. Yonge Laboratory School (1958-1960).

Tuttle, Frank Waldo, Ph.D. (Iowa), Professor of Economics (1935-1960).

Tweed, Clyde Gilbert, M.D. (Duke), Assistant in Medicine (1959-1960).

Twigg, John Frederick, M.A., Teaching Associate in Engineering Graphics (1957-1959).

Tyler, Max Ezra, Ph.D. (Ohio State), Professor of Bacteriology and Head of Department (1953-1953).

Tyner, Mack, Ph.D. (Cincinnati), Professor of Chemical Engineering (1944-1956).

Tyson, Janie Lee, Assistant in Library, Agricultural Experiment Station (1956-1956).

Tyson, Willie Kate, M.A., B.S. in L.S., Assistant Librarian in Charge of Forestry Library (1948-1956).

Uelsmann, Jerry Norman, M.S., M.F.A., Interim Instructor in Art (1960-1960).

Uhrig, Robert Eugene, (Iowa State), Professor and Acting Head, Nuclear Engineering (1960-1960).

Uldrick, John Paul, M.S., Interim Instructor in Engineering Mechanics (1960-1960).

Unger, Maurice A., LL.B., Associate Professor of Business Law (1957-1957).

Updike, Edwin H., II, M.D. (Columbia), Clinical Associate in Surgery (1959-1959).

Valk, Melvin Ehrman, Ph.D. (Wisconsin), Associate Professor of German (1947-1947).

Van Arnam, Carl E., M.D. (Oregon), Clinical Associate in Surgery (1959-1959).

Van Middelem, Charles Henry, Ph.D. (Cornell), Associate Biochemist, Agricultural Experiment Station (1951-1958).

Van Winkle, Parker Carl, B.S., Captain, Armor, Assistant Professor of Army Science (1960-1960).

Vanzant, Howard Clay, M.S., Instructor in Engineering Mechanics (1959-1959). (On leave 1960-61.)

Varney, Charles Broadwell, M.A., Instructor in Social Sciences and Geography (1957 [2nd semester 1959-60] 1957).

Vaughn, Richard Clements, M.I.E., Assistant Professor of Industrial Engineering (1957-1957).

Vierck, Charles John, B.S., Visiting Professor, Department of Engineering Graphics (1960-1960).

Vines, Herbert Max, Ph.D. (California), Associate Biochemist, Citrus Experiment Station (1960-1960).

Vogel, Joe B., Ph.D. (Iowa), Assistant Professor of Journalism and Communications (1957 [59-60] 1957).

Voichysonk, Bernard Francis, M.F.A., Instructor in Architecture (1959-1959).

Volk, Gaylord Monroe, Ph.D. (Wisconsin), Soils Chemist, Agricultural Experiment Station (1939-1939).

Vollendorf, Dean Bryant, B.Arch., Interim Instructor in Architecture (1959-1959).

Voss, Elbert, Ph.D. (Florida), Professor of Pharmacognosy and Pharmacology and Head of Department (1948-1948).

Vowles, Richard Beckman, Ph.D. (Yale), Associate Professor of English (1951-1956).

Voyles, Louis Vernon, B.A., Assistant University Examiner (1948-1948).

Vreeland, Richard Crawford, M.B.A., Interim Instructor in Marketing (1959-1959).

Waglow, Irving Frederick, M.Ed., Associate Professor of Physical Education and Interim Head, Department of Required Physical Education for Men (1946-1954).

Wagner, Glen, M.D. (Ohio State), University Physician (1960-1960).

Waites, Robert Ellsworth, Ph.D. (Ohio State), Assistant Entomologist, Agricultural Experiment Station (1951-1951).

Wakefield, Troy Marshall, M.S.T., Assistant Professor of Church Community Service, General Extension Division (1951-1951).

Wakeman, Donald Lee, M.S.A., Assistant Professor of Animal Husbandry and Assistant Animal Husbandman, Agricultural Experiment Station (1957-1957).

Waldo, Tommy Ruth, M.A., Instructor in English (1955 [59-60] 1960).

Walker, Biron Helton, M.A., Assistant Professor of English (1942-1947).

Walker, Emma Jean, M.A., Resident Counselor, Women's Residence Halls (1958-1958).

Walker, Jane Beck, M.S., Assistant in Bacteriology, Agricultural Experiment Station (1958-1958).

Walker, Lynn Wesley, M.A., Assistant Librarian in Charge of Engineering and Physics Library (1952-1954).

Walker, Robert Dixon, M.S., Professor of Chemical Engineering and Research Professor, Engineering and Industrial Experiment Station (1944-1944).

Walker, Sue Roberts, B.S., Assistant in Library, Acquisitions (1947-1947).

Walker, Thomas Jefferson, Ph.D. (Ohio State), Assistant Professor of Biological Sciences and Assistant Professor of Entomology (1957-1957).

Wallace, Alvin Thomas, Ph.D. (North Carolina State), Geneticist and Head Plant Science Unit, Agricultural Experiment Station (1950-1958).

Wallace, Arthur Jeminson, Jr., M.D. (Tulane), Lecturer in Obstetrics and Gynecology (1959-1959).

Wallace, Harold Dean, Ph.D. (Cornell), Associate Professor of Animal Nutrition and Associate Animal Husbandman, Agricultural Experiment Station (1950-1953).

Wallace, Howard Keefer, Ph.D. (Florida), Professor of Biology and Head of Department (1932-1955).

Wallace, John M., M.D. (South Carolina), Assistant in Pathology (1960-1960).

Wallace, Maxwell Joseph, Ph.D. (Cornell), Assistant Professor of French (1936 [40-46] 1951).

Wallace, Russell Willis, B.S., Associate Agronomist, North Florida Experiment Station (1942-1942).

Wallbrunn, Henry Maurice, Ph.D. (Chicago), Assitant Professor of Biology (1951-1951).

Walter, James Munday, Ph.D. (Minnesota), Plant Pathologist, Gulf Coast Experiment Station (1947-1947).

Walton, Bruce Eugene, M.D. (Western Reserve), Assistant in Surgery (1959-1959).

Walton, Joseph Albert, Jr., M.D. (Florida), Intern in Medicine (1960-1960).

Ward, Daniel Bertram, Ph.D. (Cornell), Assistant Botanist, and Assistant Professor of Botany, Agricultural Experiment Station (1958-1958).

Ward, Phillip A., M.F.A., Assistant Professor of Art (1959-1959).

Waldrop, Ramon A., A.B., Major, Assistant Professor of Air Science (1960-1960).

Warfel, Harry Redcay, Ph.D. (Yale), Professor of English (1948-1948).

Warnick, Alvin Cropper, Ph.D. (Wisconsin), Associate Professor of Animal Husbandry and Associate Physiologist, Agricultural Experiment Station (1953-1956).

Warren, Jessie Alma, M.A. in L.S., Assistant Editor and Visual Aids Specialist, Agricultural Extension Service, Tallahassee (1951-1951).

Warshyk, Edward, A.J., Shop Foreman, Engineering and Industrial Experiment Station (1950-1950).

Wass de Czege, Albert, M.A., Assistant Professor of Foreign Languages (1957-1960).

Waters, Rolland Hays, Ph.D. (Chicago), Professor of Psychology (1952-1952).

Waters, Willie Estel, Ph.D. (Florida), Assistant Horticulturist, Gulf Coast Experiment Station (1960-1960).

Watkins, John Vertrees, M.S.A., Professor of Ornamental Horticulture (1926-1955).

Watkins, Laura Jones, M.A., Instructor in Education (1943-1950).

Watkins, Marshall Owen, D.P.A. (Harvard), Director, Agricultural Extension Service (1941-1956).

Watkins, Maud Coward, M.A.E., Interim Instructor of Education (1946 [57-60] 1960).

Watson, Mary Caldwell, B.S. in L.S., Assistant Librarian, Reference and Bibliography (1960-1960).

Watts, Earle Hunt, B.S., Assistant Professor of Engineering Graphics (1957-1957).

Weaver, Jennings Clark, Ph.M., Associate Professor of Journalism and Communications and Director, Radio Production Center (1949-1956).

Webb, Guy Bedford, M.A., Interim Instructor in Music (1959-1959).

Webb, John Nye, Ph.D. (Columbia), Professor of Economics (1943-1944).

Webb, John V., M.A., Instructor in Journalism and Communications (1958-1958).

Webb, Norah Hall, M.A., Teacher, P.K. Yonge Laboratory School (1958-1958).

Webb, Thomas Elliott, M.S., Assistant Agronomist, and Manager of Foundation Seed Program, Agricultural Experiment Station (1950-1954).

Webb, Wilse Bernard, Ph.D. (State Univ. of Iowa), Professor of Psychology and Head of Department (1958-1958).

Weber, George Frederick, Ph.D. (Wisconsin), Professor of Plant Pathology (1922-1932).

Wehlburg, Cornelius, Ph.D. (State Univ. of Utrecht, Holland), Everglades Experiment Station (1960-1960).

Weigel, Walter W., M.D. (Emory), Clinical Associate in Medicine (1959-1959).

Weil, Joseph, M.S., (D.Sc. [Honorary] Jacksonville University), Dean of the College of Engineering and Professor of Electrical Engineering and Director, Engineering and Industrial Experiment Station (1921-1937).

Weimer, Rae O., Director of the School of Journalism and Communications, and Professor of Journalism (1949-1953).

Weise, Reinold E., M.D. (Virginia), Assistant in Surgery (1960-1960).

Welborn, Gay H., B.S., Director of Food Service (1960-1960).

Welch, Albert Gallagher, M.S.E., Associate Research Professor, Engineering and Industrial Experiment Station (1957-1957)

Wells, John Dearborn, M.B.A., Assistant Professor of Economics and Statistics (1959-1959).

Wells, Thomas Leon, M.D. (Vanderbilt), Assistant in Surgery (1959-1959).

Wells, Thomas Nathan, B.S.E.E., Director of Purchasing (1950-1958)

Welsch, Walter Roland, M.Ed., Assistant Professor of Physical Education and Assistant Track Coach (1954-1959).

Wenger, June Eileen, M.A., Resident Counselor, Women's Residence Halls (1960-1960).

Wennberg, Benkt, Ph.D. (Pennsylvania), Assistant Professor of French (1956-1956).

Wenzel, Evelyn Louise, Ed.D. (Columbia), Assistant Professor of Education (1958-1958).

Wenzel, Frederick William, Jr., Ph.D. (Massachusetts), Chemist, Citrus Experiment Station (1948-1948).

Wershow, Irving Robert, Ph.D. (Yale), Associate Professor of Spanish (1946-1954).

West, Betsy Elliott, M.Ed., Teacher, P.K. Yonge Laboratory School (1959-1959).

West, Erdman, M.S., Professor of Botany; Botanist and Mycologist, Agricultural Experiment Station (1925-1927).

West, Sherlie Hill, Ph.D. (Illinois), Assistant Agronomist, U.S.D.A., Agricultural Experiment Station (1958-1958).

West, Stanley LeRoy, LL.B., B.S. in L.S., Director of Libraries and Professor of Library Science (1938 [40-46] 1946).

Westfall, Minter Jackson, Jr., Ph.D. (Cornell), Associate Professor of Biological Sciences and Associate Professor of Entomology (1947-1955).

Westgate, Philip John, Ph.D. (Cornell), Horticulturist, Central Florida Experiment Station (1943 [46-49] 1960).

Wethington, John Abner, Jr., Ph.D. (Northwestern), Professor of Nuclear Engineering and Professor of Chemistry (1953-1960).

Weyrauch, Walter Otto, J.U.D. (Frankfurt), Professor of Law (1957-1960).

Wharton, William Louis, M.Ed., Assistant Director of Admissions (1953-1953).

Wheat, Myron W., Jr., M.D. (Washington, Mo.), Assistant Professor of Surgery (1958-1958).

White, Barbara Crittenden, M.E., Associate Professor, Chairman, Curriculum in Physical Therapy, College of Health Related Services (1958-1958).

White, Clementine Bertha, M.M., Interim Instructor in Music (1960-1960).

White, Franklin Henry, Ph.D. (Illinois), Assistant Bacteriologist, Agricultural Experiment Station (1955-1955).

White, Gordon Hughes, Jr., M.S., Assistant State Boys' 4-H Club Agent, Agricultural Extension Service (1959-1959).

White, Jake B., B.S.A., Associate Dairy Husbandman, North Florida Experiment Station (1941-1944).

White, Joseph Benton, Ph.D. (Peabody), Dean of the College of Education and Professor of Education (1948-1949). (On leave 1960-61).

Whitehead, Richard Holmes, B.A., Associate Registrar (1938-1952).

Whitehurst, William Laney, M.D. (Tennessee), Lecturer in Psychiatry (1959-1959).

Whitehurst, William Westwood, M.D. (Virginia), Assistant in Medicine (1960-1960).

Whitley, Estoya Willis, M.A., Teacher, P.K. Yonge Laboratory School (1958-1958).

Whitner, Benjamin Franklin, Jr., B.S.A., Assistant Horticulturist, Central Florida Experiment Station (1922 [26-45] 1945).

Whittemore, Hiram D., B.S.A.E., Associate Agricultural Engineer, U.S.D.A., Everglades Experiment Station (1958-1958).

Whittier, Millicent Kay, M.D. (Florida), Assistant in Pathology (1960-1960).

Whittington, Willis Arling, M.Ed., Instructor, P.K. Yonge Laboratory School (1953-1957).

Wickman, Peter M., Ed.D. (Michigan State), Assistant Professor of Social Sciences (1960-1960).

Wiegman, Robert Raymond, Ed.D. (Oregon), Professor of Education (1960-1960).

Wiener, Stanley Morton, M.D. (Amsterdam), Senior Assistant Resident in Psychiatry (1960-1960).

Wiggins, Macdonald Johnston, M.S.E., Assistant Professor of Electrical Engineering (1953 [59-60] 1955).

Wilcox, Charles Julian, Ph.D. (Rutgers), Assistant Professor of Dairy Husbandry and Assistant Dairy Husbandman, Agricultural Experiment Station (1959-1959).

Wilcox, Donald Brooks, M.S.M.E., Professor of Industrial Engineering (1952-1952).

Wiles, Kimball, Ph.D. (Ohio State), Professor of Education and Acting Dean of the College of Education (1950-1960).

Wilgus, A. Curtis, Ph.D. (Wisconsin), Director, School of Inter-American Studies and Professor of History (1951-1951).

Wilkinson, Clyde Winfield, Ph.D. (Illinois), Professor of English (1959-1959).

Wilkinson, Robert Cleveland, M.S., Assistant Entomologist, Agricultural Experiment Station (1960-1960).

Wilkowske, Howard Hugo, Ph.D. (Iowa State), Assistant Director and Dairy Technologist, Agricultural Experiment Station (1950-1957).

Willard, Del. M.S., Instructor in Mathematics (1960-1960).

Willard, Robert Clark, A.A., Interim Instructor in Architecture (1959-1959).

Williams, David Tyndale, Ph.D. (New York), Professor of Aeronautical Engineering and Research Professor, Engineering and Industrial Experiment Station; Professor of Physics (1957-1957).

Williams, Donald Edward, Ph.D. (Northwestern), Assistant Professor of Speech (1959-1959).

Williams, Donald Raymond, M.Ed., Instructor, P.K. Yonge Laboratory School (1954-1958).

Williams, Herman Barnes, B.M.E., Associate Professor of Engineering Graphics (1946-1947).

Williams, Hiram D., M.Ed., Assistant Professor of Art (1960-1960).

Williams, Robert L., M.D. (Albany), Associate Professor of Psychiatry and Medicine (1958-1958).

Williams, William T., M.D. (Virginia), Clinical Associate in Surgery (1960-1960).

Williamson, Robert Crozier, Ph.D. (Wisconsin), Professor of Physics (1930-1930). (On leave 1958-61).

Willingham, James Wesley, Ph.D. (Minnesota), Associate Professor of Forestry and Associate Forester (1950-1959).

Wilmot, William V., Jr., Ph.D. (Wisconsin), Associate Professor of Management and Head of Department of Management and Business Law (1957-1959).

Wilson, Francis Lorne, M.Ag., Assistant Ornamental Horticulturist, Agricultural Extension Service (1958-1959).

Wilson, F.D., Ph.D. (State College of Washington), Assistant Plant Geneticist, U.S.D.A., Everglades Experiment Station (1958-1958).

Wilson, Harold A., M.A., Interim Assistant Professor of Social Sciences (1958-1958).

Wilson, James Graves, Ph.D. (Yale), Professor of Anatomy and Head of Department, College of Medicine (1955-1955).

Wilson, James Larrymore, Ph.D. (North Carolina), Associate Professor of English (1939 [42-47] 1956). (On leave 1960-61).

Wilson, James Robert, M.D. (Medical College of South Carolina), Clinical Associate in Surgery (1958-1960).

Wilson, Jennet Mae, M.A., Assistant Professor of Nursing, College of Nursing (1957-1957).

Wilson, John Wallace, D.Sc. (Harvard), Entomologist in Charge, Central Florida Experiment Station (1930-1959).

Wilson, Stantford Russell, M.D., Ph.D. (Florida), Intern in Medicine (1960-1960).

Wimberly, Stanley Eugene, Ph.D. (Michigan), Assistant Dean of the College of Arts and Sciences; Professor of Psychology (1941 [45-46] 1951).

Winefordner, James Dudley, Ph.D. (Illinois), Assistant Professor of Chemistry (1959-1959).

Wing, Alexander Holbrook, Ph.D. (Columbia), Professor of Electrical Engineering (1955-1955).

Wing, James Marvin, Ph.D. (Iowa State), Associate Professor of Dairy Science and Associate Dairy Husbandman, Agricultural Experiment Station (1951-1960).

Winsor, Donald L., M.Ed., Instructor in Education (1956-1956).

Winsor, Herbert Williams, B.S.A., Assistant Chemist, Agricultural Experiment Station (1930-1930).

Wirtala, Arnold Ernest, Ed.D. (Florida), Assistant Professor of Music (1948-1952).

Wise, Jacob Hooper, Ph.D. (Peabody), Professor of English and Head of C-3: Reading, Speaking and Writing (1925-1935).

Wolf, Emil Andrew, M.S., Associate Horticulturist, Everglades Experiment Station (1948-1956).

Wolfe, Herbert Snow, Ph.D. (Chicago), Professor of Fruit Crops (1930-1932).

Wolfenbarger, Daniel Otis, Ph.D. (Cornell), Entomologist, Sub-Tropical Experiment Station (1945-1946).

Wolff, George Elliott, Ph.D. (North Carolina), Assistant Professor of Social Sciences and Political Science (1950 [59-60] 1956).

Wolford, Richard Wilson, M.A., Associate Chemist, Citrus Experiment Station (1951-1951).

Wolfson, Sorrell L., M.D. (Vanderbilt), Clinical Associate in Pediatrics (1959-1959).

Woltz, Shreve Simpson, Ph.D. (Rutgers), Assistant Horticulturist, Gulf Coast Experiment Station (1953-1953).

Wood, Roy Stanley, M.D. (Duke), Assistant in Pediatrics (1960-1960).

Woodward, Edward R., M.D. (Chicago), Professor of Surgery and Head of Department, College of Medicine (1957-1957).

Woodward, William Davis, M.S., Assistant Soils Chemist, North Florida Experiment Station (1958-1958).

Worcester, Donald Emmet, Ph.D. (California), Professor of History (1947-1955).

Workman, Ralph B., Jr., Ph.D. (Oregon State), Assistant Entomologist, Potato Investigations Laboratory (1958-1958).

Wright, Arthur Gilbert, M.S., Curator of Exhibits, Florida State Museum (1953-1953).

Wright, Ernest Beview, Ph.D. (California Institute of Technology), Associate Professor of Physiology, College of Medicine (1956-1956).

Wright, Samuel Snowden, M.D. (Emory), Professor of Hygiene and Head, Department of Student Health; Assistant Professor of Medicine (1959-1959).

Wroe, Martha Catherine, M.A., Instructor in Physical Therapy; Chief Physical Therapist, Teaching Hospital (1959-1959).

Wyatt, John Walton, S.J.D. (George Washington), Professor of Business Law (1948-1956).

Yate, Harry Edgar, Assistant Meteorologist, Weather Forecasting Service, U.S.W.B. (1954-1954).

Yearley, Clifton Krebs, Ph.D. (Johns Hopkins), Assistant Professor of Social Sciences and History (1954-1957).

Yeatts, Pearline Peters, M.Ed., Teacher, P.K. Yonge Laboratory School (1958-1958).

Yeung, Tai-Fong, M.D. (Hong Kong), Research Fellow in Surgery (1960-1960).

Yoder, Lowell Curtis, M.A., Associate Professor of Marketing (1949-1949).

Yoho, William Herbert, M.S., Assistant Professor of Physical Sciences and Geology (1951-1951).

Yon, Everett Marion, B.S., Director, Public Relations Division of Intercollegiate Athletics (1950-1960).

Yonge, Philip Keyes, LL.B., Professor of Law (1949 [59-60] 1954).

Yost, Gilbert Eugene, B.S., Assistant Agricultural Engineer, Agricultural Experiment Station, U.S.D.A. (1957-1957).

Young, Canning K.M., M.A.F.A., Associate Professor of Architecture (1955-1955).

Young, Franklin, Ph.D. (Florida), Postdoctoral Research Fellow in Veterinary Science (1960-1960).

Young, Gertrude Marian, Ed.D. (Columbia), Associate Professor of Education (1957-1957).

Young, Harold William, Ph.D. (Ohio State), Assistant Horticulturist, North Florida Experiment Station (1958-1958).

Young, Howard Bacon, M.S.A., Assistant Extension Dairyman, Agricultural Extension Service (1957-1957).

Young, John Adams, Ph.D. (Florida), Associate Research Professor, Engineering and Industrial Experiment Station, and Associate Professor of Chemistry (1953-1956).

Young, Myrl Marvin, Ph.D. (Chicago), Assistant Professor of Social Sciences (1958-1958).

Young, Thomas Wilbur, Ph.D. (Cornell), Horticulturist, Sub-Tropical Experiment Station (1942 [49-53] 1958).

Young, William Welch, M.A., Assistant Professor of Business and Resource Development and Head of Department, General Extension Division (1955-1959). (On leave 1960-61).

Youngs, Marian Amelia, M.A. in L.S., Assistant Librarian, Technical Processes and Assistant Professor of Library Science (1934 [38-49] 1949).

Yuan, Tzu Liang, Ph.D. (Ohio State), Assistant Chemist, Agricultural Experiment Station (1955-1957).

Zetrouer, Wallace Feaster, M.S.E., Assistant Professor of Electrical Engineering (1943-1956).

Zia, Paul Zung-Teh, Ph.D. (Florida), Assistant Professor of Civil Engineering (1955-1960).

Zeigler, Claude Dawson, Jr., B.B.C., Instructor in Building Construction (1960-1960).

Ziegler, Louis William, Ph.D. (Florida), Professor of Fruit Crops (1930 [31-47] 1958.)

Zimmerman, Irene, Ph.D. (Michigan), Assistant Librarian, Reference and Bibliography (1951-1951).

Zimmerman, Leland L., Ph.D. (Wisconsin), Associate Professor of Speech (1955-1960).

Zimpfer, Walter Henry, M.S., Associate Professor of Civil Engineering and Associate Research Professor, Engineering and Industrial Experiment Station (1950-1956).

UNIVERSITY OF FLORIDA

AGRICULTURAL EXTENSION SERVICE

COUNTY AND HOME DEMONSTRATION AGENTS

Abbott, Doyle Edwin, B.S.A., Assistant Marketing Agent, Dade County (1958-1958).

Ahrano, Elizabeth Cermak, B.S.H.E., Assistant Alachua County Home Demonstration Agent (1957-1957).

Alexander, Camilla Radney, B.S., Lafayettee County Home Demonstration Agent (1947-1947).

Allen, Edward, M.S., Assistant Duval County Agent (1960-1960).

Andrews, Adam Tucker, M.Ag., Assistant Alachua County Agent (1954-1954).

Andrews, Rance Adam, B.S.A., Hamilton County Agent (1953-1955).

Atkinson, Ethel, B.A., Escambia County Home Demonstration Agent (1929-1929).

Barco, Johnnie Frank, B.S.A., Lee County Agent (1950-1953).

Bass, Bernice Odell, M.S.A., Glades County Agent (1956-1959).

Bassett, Mamie Goins, B.S.H.E. Assistant Hillsborough County Home Demonstration Agent (1955-1955).

Baxter, Ray Cole, (Mrs.) B.S., Citrus County Home Demonstration Agent (1953-1953).

Beem, Jean, M.S.A., Hillsborough County Agent (1948-1960).

Bell, Larmar Aaron, B.S.A., Assistant Escambia County Agent (1959-1959).

Bennett, Mary Haynie, B.S.H.E., St. Lucie County Home Demonstration Agent (1954-1954).

Benton, Emma Stevenson, B.S.H.E., Bay County Home Demonstration Agent (1946 [49-50] 1950).

Blitch, Loomis, B.A.E., Alachua County Agent (1931-1931).

Bowers, Herman Denver, B.S.A., Assistant Lake County Agent (1959-1959).

Boyles, Clifford Raymond, Okeechobee County Agent (1944-1944).

Braddock, Thomas Hansen, Jr., B.S.A., Assistant Duval County Agent (1957-1957).

Brinkley, Harry John, M.S.A., Pinellas County Agent (1941-1941).

Brown, Nettie Ruth, B.S.H.E., St. Johns County Home Demonstration Agent (1960-1960).

Burdine, Martha Carolyn, M.S.H.E., Martin County Home Demonstration Agent (1952 [55-56] 1956).

Burgess, Jane Randal, B.S.H.E., Assistant Jackson County Home Demonstration Agent (1954-1954).

Butcher, Erma Linderman, B.S.H.E., Assistant Dade County Home Demonstration Agent (1955-1955).

Caldwell, Joanne Adelaide, B.S., Assistant Pasco County Home Demonstration Agent (1960-1960).

Cameron, Josephine Moore, B.S.H.E., Assistant Duval County Home Demonstration Agent (1953 [54-55; 57-59] 1959).

Campbell, John Douglas, B.S.A., Dade County Agent (1947-1955).

Carr, Horace Mixon, B.S.A., Bay County Agent (1951-1951).

Carter, Mary Ellen, B.S.H.E., Assistant Hillsborough County Home Demonstration Agent (1957-1957).

Causey, John Hjalmar, B.S.A., Assistant Palm Beach County Agent (1948-1948).

Champagne, Roy Jean, M.S., Assistant Dade County Agent (1953-1953).

Childers, Sallie Russell, B.S., Holmes County Home Demostration Agent (1954-1954).

Christmas, Robert Bruce, M.S.A., Assistant Orange County Agent (1959-1960).

Clark, Bernard Hentz, B.S.A., Assistant Gadsden County Agent (1948-1948).

Clark, Kenneth Ames, B.S.A., Sarasota County Agent (1942-1942).

Clark, Virginia Carr, B.S.H.E., Walton County Home Demonstration Agent (1953 [55-60] 1960).

Classon, Dorothy Jacobson, B.S., Sumter County Home Demonstration Agent (1959-1959).

Clay, Ralph Thomas, Jr., B.S.A., Assistant Putnam County Agent (1949-1949).

Cobb, Leonard Clarence, M.Ag., Gilchrist County Agent (1951-1953).

Coffey, Leeta Joy, B.S., Assistant Escambia County Home Demonstration Agent (1959-1959).

Colburn, William Ezra, B.S., Assistant Orange County Agent (1959-1959).

Cook, Rebecca Slaughter, B.S.H.E., Liberty County Home Demonstration Agent (1960-1960).

Cowen, Edward James, B.S.A., Lafayette County Agent (1955-1959).

Cowen, William Joshua, B.S.A., Union County Agent (1946-1948).

Crews, Julius Paul, B.S.A., Suwannee County Agent (1953-1954).

Cribbett, Albert Franklin, B.S.A., Assistant Orange County Agent (1954-1954).

Cunningham, Harrell Wilson, B.S.A., Assistant Brevard County Agent (1951-1951).

Curtis, Robert George, B.S.A., Assistant Manatee County Agent (1952-1952).

Daigle, Louis John, M.Ag., Assistant Dade County Agent (1960-1960).

Daughtry, Mamie Case, B.S.H.E., Leon County Home Demonstration Agent (1947-1951).

Davidson, Janet Gene, B.S., Assistant Orange County Home Demonstration Agent (1960-1960).

Davis, Henry Pittman, B.S.A., Taylor County Agent (1950-1954).

Davis, Johnnie Everette, B.S.A., Washington County Agent (1948-1951).

Davis, Robert Marion, M.Ag., Assistant Hillsborough County Agent (1960-1960).

Dawsey, Postelle Gilpin, B.S.H.E., DeSoto County Home Demonstration Agent (1957-1957).

Dietrich, Marilyn, B.S., Osceola County Home Demonstration Agent (1956-1956).

Dinkins, Paul LeRoy, M.Ag., Assistant St. Johns County Agent (1956-1956).

Downs, Robert Donald, B.S.A., Assistant Hillsborough County Agent (1957-1957).

Duckett, Betty Joan, B.A., Highlands County Home Demonstration Agent (1955-1955).

Dukes, Neal Matthew, B.S., Columbia County Agent (1952-1952).

Durre, Nolan Loyd, M.S., Assistant Dade County Agent (1952-1952).

Eby, Edna Sims, B.S.H.E., Volusia County Home Demonstration Agent (1943-1948).

Elkins, Ruth McKeown, B.S.H.E., Polk County Home Demonstration Agent (1942-1942).

Ellis, Gordon Brooks, Nassau County Agent (1944-1946).

Elmore, Annie Sue, M.S., Hardee County Home Demonstration Agent (1960-1960).

Estes, James Barry, B.S.A., Assistant Levy County Agent (1958-1958).

Farrell, Wilburn Carlos, M.A., Levy County Agent (1951-1955).

Finlay, Annie Wood, B.S., Calhoun County Home Demonstration Agent (1954-1954).

Fischer, Everette Henry, B.S.A., Assistant Marion County Agent (1956-1956).

Floyd, Ben Harrell, B.S.A., Dixie County Agent (1951 [52-54] 1957).

Fox, Nancy Sharp, B.S., Assistant Lake County Home Demonstration Agent (1959-1959).

Fulmer, Judson Todd, B.S.A., Assistant Suwannee County Agent (1957-1957).

Fulton, May Ola, B.S.H.E., Extension Agent - Indian Work (1954-1960).

Furr, Elisabeth Brown, B.A.H.E., Assistant Marion County Home Demonstration Agent (1957-1957).

Gallagher, Mary Lavinia, B.S.H.E., Assistant Duval County Home Demonstration Agent (1957-1957).

Gallo, Theodore, B.S.A., Assistant Pinellas County Agent (1956-1956).

Gann, Mary Davis, B.S.H.E., Assistant Putnam County Home Demonstration Agent (1960-1960).

Garrett, Elsie Margaret, B.S., Marion County Home Demonstration Agent (1957-1957).

George, Donald Atkinson, B.S.A., Sumter County Agent (1954-1960).

Glasscock, Paul Edwin, B.S., Assistant Hillsborough County Agent (1957-1957).

Glenn, Woodrow Wilson, M.Ag., Jackson County Agent (1944-1944).

Goldweber, Seymour, B.S., Assistant Dade County Agent (1960-1960).

Greenawalt, Earlece Ford, B.S.H.E., Levy County Home Demonstration Agent (1958 [58] 1959).

Gregory, Marjorie Butler, B.S.H.E., Gadsden County Home Demonstration Agent (1952-1953).

Griffis, Raleigh Sidney, M.Ag., Assistant Palm Beach County Agent (1949 [50-53] 1949).

Haddox, Jackson Alexander, M.Ag., Assistant Polk County Agent (1951-1951).

Hamrick, Oliver Rudolph, M.Ag., Madison County Agent (1950-1951).

Hanson, Ethel Weeks, B.S.H.E., Manatee County Home Demonstration Agent (1951-1954).

Hardiman, Helen Roberson, B.S., Columbia County Home Demonstration Agent (1956-1956).

Harper, Esther Foster, B.S.H.E., Putnam County Home Demonstration Agent (1952 [55-58] 1952).

Harrell, Aubrey Luther, M.Ag., Baker County Agent (1950-1952).

Harris, Bert Jerome, B.S.A., Highlands County Agent (1948-1953).

Harris, James Edward, B.S., Assistant Leon County Agent (1958-1958).

Harrison, Henry Oscar, M.Ag., Walton County Agent (1944-1946).

Hatcher, William Lester, B.S.A., DeSoto County Agent (1954-1957).

Hayman, Jack Carlton, B.S.A., Hardee County Agent (1953-1958).

Hayman, William Paul, B.S.A., Polk County Agent (1928-1928).

Health, Alyne Carter, Jackson County Home Demonstration Agent (1943-1943).

Hicks, Roberta Cherry, A.B., Baker County Home Demonstration Agent (1960-1960).

Higgins, James Francis, M.A., Pasco County Agent (1944-1944).

Hill, Virginia Ruth, B.S., Assistant Hillsborough County Home Demonstration Agent (1954-1954).

Hilton, Rita Gasperson, B.S., Assistant Polk County Home Demonstration Agent (1959-1959).

Hodges, Mary Jane, B.S.H.E., Assistant Lake County Home Demonstration Agent (1960-1960).

Hopson, Hal Consigny, B.S.A., Assistant Sarasota County Agent (1957-1957).

Huffaker, Ralph Eugene, B.S.A., Assistant Dade County Agent (1957-1957).

Huggins, George Thomas, B.S.A., Bradford County Agent (1941-1950).

Hunt, John Williamson, M.S.A., Assistant Polk County Agent (1959-1959).

Hurd, Vernita Anne, B.S.H.E., Assistant Santa Rosa County Home Demonstration Agent (1960-1960).

Hutcheson, Aaron Andrew, B.S.A., Assistant Santa Rosa County Agent (1958-1958).

Jasa, Frank Joseph, B.S.A., Assistant Broward County Agent (1957-1957).

Jeter, Ann Pierce, B.S., Franklin County Home Demonstration Agent (1956-1957).

Johnson, Levi Mott, B.S.A., Martin County Agent (1944-1944).

Jones, Thomas Byron, M.S.A., Calhoun County Agent (1948-1948).

Jorgensen, Milford Christen, B.S.A., Assistant Hillsborough County Agent (1954-1954).

Kelly, Earl McNeil, M.Ag., Assistant Manatee County Agent (1949-1950).

Kendrick, Wilson Harper, B.S.A., Manatee County Agent (1946-1952).

Kent, Olga Mary, B.S.H.E., Dade County Home Demonstration Agent (1953 [44-46] 1953).

Kierce, Steiner Clive, B.S.A., Santa Rosa County Agent (1934-1934).

Kiser, Lora Antoinette, B.S.H.E., Hillsborough County Home Demonstration Agent (1946-1946).

Knight, Marjorie Ludeman, B.S.H.E., Orange County Home Demonstration Agent (1952-1952).

Knight, William Mims, Jr., B.S.A., Assistant Citrus County Agent (1958-1958).

Laird, Cubie Revonie, B.S.A., Gulf County Agent (1945-1945).

Lander, Donald Wilson, M.A., Collier County Agent (1950-1952).

Lattimer, Charlotte Mangan, B.S.H.E., Pinellas County Home Demonstration Agent (1950-1950).

Llewellyn, William Robert, B.S.A., Assistant Dade County Agent (1954-1954).

LoPinto, Miriam Imelda, B.S., Assistant Palm Beach County Home Demonstration Agent (1957-1957).

Love, Catherine Haynes, M.A., Sarasota Home Demonstration Agent (1960-1960).

Lundberg, Ernest Congdon, B.S.A., Assistant Seminole County Agent (1960-1960).

Luttrell, James Norman, B.S.A., Assistant Volusia County Agent (1954-1954).

MacDonald, Ruby Strain, M.S.H.E., Washington County Home Demonstration Agent (1957-1957).

MacTavish, Helen Bone, B.S.A., Assistant Dade County Home Demonstration Agent (1953-1953).

Magness, Sybil Marie, B.S.H.E., Assistant Duval County Home Demonstration Agent (1960-1960).

Maltby, Hubert Edmond, Putnam County Agent (1943-1943).

Martsolf, Jay David, B.S.A., Assistant Highlands County Agent (1958-1958).

McCall, Emmett Dehyrl, B.S.A.E., Clay County Agent (1942-1942).

McCullars, Forrest Noble, B.S.A., Indian River County Agent (1953-1955).

McDonald, Marjory Bell, B.S.H.E., Assistant Dade County Home Demonstration Agent (1957-1957).

McMullen, Phillips Ramage, B.S.A., St. Johns County Agent (1933 [46-49] 1933).

McQueen, Nathaniel Holderby, B.S.A.E., Charlotte County Agent (1935-1935).

McSwine, Josephine Hemphill, B.S.H.E., Alachua County Home Demonstration Agent (1945-1945).

Meadows, Hilton Theodore, M.Ed., Assistant Columbia County Agent (1959-1959).

Meares, Cora Hargrave, B.S., Assistant Pinellas County Home Demonstration Agent (1960-1960).

Medlin, Quentin, B.S.A., Citrus County Agent (1947-1950).

Mills, Nellie Daughtry, B.S., Duval County Home Demonstration Agent (1948-1948).

Montsdeoca, Fred, Extension Agent-Indian Work (1955-1960).

Moore, Mary Allen, B.S.Ed., Assistant Orange County Home Demonstration Agent (1954-1954).

Morgan, Mary Ledbetter, A.B.H.E., Assistant Broward County Home Demonstration Agent (1957-1957).

Mounts, Marvin Umphrey, Palm Beach County Agent (1925-1929).

Nelson, Margaret Rusher, B.S.H.E., Clay County Home Demonstration Agent (1957-1957).

Nix, Fern Sulphin, B.S.H.E., Jefferson County Home Demonstration Agent (1954-1954).

Nixon, William Merle, M.S.A., Assistant Lake County Agent (1960-1960).

Norris, Robert Elfred, B.S.A., Lake County Agent (1935-1937).

Odom, Albert Hill, M.S.A., Jefferson County Agent (1947-1951).

O'Quinn, Clarence Fentress, B.S.A., Assistant Hillsborough County Agent (1954-1954).

Owens, George Maxwell, M.Ag., Assistant Clay County Agent (1956-1956).

Oxford, James Thomas, B.S.A., Brevard County Agent (1942-1942).

Pastorius, Edwin Stanton, B.S., Assistant Sarasota County Agent (1958-1958).

Patten, Jack Dowdell, B.S.A., Okaloosa County Agent (1955-1959).

Paulk, Harvey Timothy, M.Ag., Assistant Madison County Agent (1956-1956).

Payne, Barbara June, B.A., Santa Rosa County Home Demonstration Agent (1954 [56-57] 1954).

Pierce, James Dwight, B.S.A., Assistant Polk County Agent (1956-1956).

Polhill, Frank Leonard, B.S.A., Hendry County Agent (1952-1954).

Presley, Evelyn Cribbs, M.S.H.E., Leon County Assistant Home Demonstration Agent 1954 [57-58] 1959).

Price, Rayburn Kenneth, B.S.A., Assistant Palm Beach County Agent (1952-1952).

Pryor, Robert Shepherd, B.S., Broward County Agent (1946-1955).

Rarden, William Jerome, M.Ag., Assistant Collier County Agent (1960-1960).

Reese, Sandra Lee, B.S.H.E., Assistant Clay County Home Demonstration Agent (1959-1959).

Rhoden, James Lloyd, M.Ag., Leon County Agent (1946-1946).

Robertson, Edwena Jeanette, B.S.H.E., Assistant Gadsden County Home Demonstration Agent (1954-1954).

Rook, Dot Vick, B.S.H.E., Hernando County Home Demonstration Agent (1957-1958).

Ross, Dorothy Pearl, B.S.H.E., Bradford County Home Demonstration Agent (1947-1948).

Rowan, Charles Edison, B.S.A., Assistant Dixie County Agent (1954-1954).

Rowan, Edsel Wright, B.S.A., Marion County Agent (1950-1954).

Rozar, Luther Lynson, B.S.A., Assistant Pasco County Agent (1958-1958).

Rudd, Russell Shaird, B.S.A., Assistant Jackson County Agent (1956-1956).

Russell, John Coleman, B.S.A., Gadsden County Agent (1952-1952).

Sabbarese, Evelyn Ingraham, B.S., Nassau County Home Demonstration Agent (1956-1956).

Saunders, Charles Alfred, B.S.A., Assistant Calhoun County Agent (1960-1960).

Scott, Lenzy Maurice, B.S.A., Associate Washington County Agent (1955-1955).

Sears, Elva Louise, B.S.H.E., Interim Assistant Manatee County Home Demonstration Agent (1960-1960).

Shoemake, Paula Jo, B.A., Assistant Escambia County Home Demonstration Agent (1959-1959).

Smith, Charles Raymond, B.S.A., Hernando County Agent (1953-1954).

Smith, James Blanchard, B.S.A., Osceola County Agent (1950-1954).

Smith, William Carlton, M.Ag., Assistant Taylor County Agent (1957-1957).

Smith, William Howard, M.Ag., Associate Suwannee County Agent (1958-1958).

Stearns, Mary Riedel, B.S.H.E., Pasco County Home Demonstration Agent (1950-1950).

Stephens, Eugene Norbert, B.S.A., Escambia County Agent (1941-1941).

Storey, Cleveland Umphrey, B.S.A., Holmes County Agent (1954-1956).

Straughm, Alto Alfred, M.S.A., Assistant Marion County Agent (1959-1959).

Stubblefield, Dora Smith, Okaloosa County Home Demonstration Agent (1956-1956).

Swanson, Henry Frederick, M.S.A., Orange County Agent (1948-1957).

Taylor, Eula Louise, B.S., Broward County Home Demonstration Agent (1937-1937).

Taylor, Howard, B.S.A., Flagler County Agent (1955-1957).

Taylor, Lawrence Dennis, M.Ag., Wakulla County Agent (1954-1958).

Terry, Dorothy Walling, B.S.H.E., Assistant Brevard County Home Demonstration Agent (1959-1959).

Thomaston, James Edsel, B.S., Liberty County Agent (1954-1959).

Thompson, Ethel Paschall, B.S., Taylor County Home Demonstration Agent (1957-1957).

Tilley, Jo Ann, M.Ed., Assistant Pinellas County Home Demonstration Agent (1955 [58-59] 1960).

Todd, Mary Leah, B.S.H.E., Palm Beach County Home Demonstration Agent (1955-1955).

Townsend, Thomas Ralph, M.Ag., Volusia County Agent (1948-1954).

Tucker, Cecil Argule, M.S., Seminole County Agent (1954-1956).

Tucker, Charles Seibert, B.S.A., Assistant Palm Beach County Agent (1958-1958).

Valentine, Marian Bullard, B.S.H.E., Lake County Home Demonstration Agent (1954-1954).

Walker, James Henry, M.S.A., Assistant Escambia County Agent (1949-1955).

Watson, James Nichals, B.S.A., Duval County Agent (1946-1949).

Watson, Lewis Elbyrne, M.Ag., Assistant Broward County Agent (1955-1955).

Wheaton, Ernest Richard, B.S.A., Assistant Leon County Agent (1960-1960).

Whelchel, Hugh Calvin, Jr., B.A., St. Lucie County Agent (1956-1960).

White, Wylma Blodgett, M.S.H.E., Hamilton County Home Demonstration Agent (1955-1955).

Whitmore, Theodore Edris, B.S.A., Assistant Manatee County Agent (1958-1958).

Whitton, Gilbert Marshall, Jr., M.Ag., Assistant Pinellas County Agent (1957-1957).

Wilson, Myrtie Clara, B.S.H.E., Seminole County Home Demonstration Agent (1954-1954).

Winter, Calvin Arnold, M.S., Assistant Escambia County Agent (1955-1955).

Yates, Robert, B.S.A., Assistant Polk County Agent (1956-1956).

Yelvington, James Russell, M.Ag., Assistant Duval County Agent (1952-1952).

Young, Sue Bettersworth, B.S., Brevard County Home Demonstration Agent (1953-1953).

Zipperer, Almon Smith, B.S.H.E., Madison County Home Demonstration Agent (1955-1955).

Zorn, William Carlton, M.Ag., Franklin County Agent (1949-1953).

MEMBERS OF THE FACULTY WHO RETIRED PRIOR TO THE 1960-61 SESSION

(The date indicates year of retirement)

Abbott, Oudia Davis, Ph.D. (Missouri), Home Economist, Food Technology and Nutrition, Agricultural Experiment Station (1958).

Arnold, Lillian E., M.S., Associate Botanist, Plant Pathology, Agricultural Experiment Station (1958).

Arnold, P.T. Dix, M.S.A., Associate Professor Emeritus of Dairy Husbandry and Associate Dairy Husbandman, Agricultural Experiment Station (1959).

Atkins, Ernest George, Ph.D. (Harvard), Professor of French (1950).

Baetzman, Frederick Ernest, B.S.A., Orange County Agent (1957).

Beaty, Robert Colder, M.A., Dean of Student Personnel (1960).

Bevis, Joyce, M.A., District Home Demonstration Agent, Agricultural Extension Service (1959).

Blacklock, Raymond William, B.A., State Boys' 4-H Club Agent, Agricultural Extension Service (1949).

Blackmon, Gulie Hargrove, M.S.A., Horticulturist Emeritus, Agricultural Experiment Station (1954).

Bledsoe, Roger William, Ph.D. (Iowa), Associate Director, and Agronomist, Agricultural Experiment Station. Deceased January 24, 1960.

Bless, Arthur Aaron, Ph.D. (Cornell), Professor Emeritus of Physics and Director of Bioelectric Potentials Project (1951).

Boutelle, Margaret White, M.A., Assistant Professor of Education (1954).

Brabson, Catherine, M.S., Highlands County Home Demonstration Agent (1960).

Bregger, Thomas, Ph.D. (Cornell), Physiologist, Everglades Station (1958).

Bristol, Mary Cornell, B.S., Biology Librarian (1949).

Brown, Hamlin L., B.S.A., Dairy Husbandman, Agricultural Extension Service (1946).

Brown, Laleah Burnett, B.S., Sarasota County Home Demonstration Agent (1957). Deceased October 22, 1959.

Brown, Richard Dewitt, B.M., Professor of Music (1953).

Brush, Warren David, Ph.D. (American), Instructor in Dendrology (1951).

Byers, Charles Francis, Ph.D. (Michigan), Assistant Dean, College of Arts and Sciences; Professor of Biology; Professor of Biological Sciences and Head of Department (1959).

Camp, Arthur Forrest, Ph.D. (Washington), Vice Director Emeritus, Citrus Experiment Station (1956).

Carson, Cleva J., B.A., Teacher, P.K. Yonge Laboratory School (1947).

Carter, Bonnie Jean, B.S., Home Improvement Specialist, Agricultural Extension Service (1958).

Cawthon, William Stanmore, M.A., Associate Professor of History and Political Science (1942).

Chotas, Nicholas Eli, M.Arch., Associate Professor of Architecture. Deceased June 13, 1959.

Christie, Jesse Roy, Ph.D. (George Washington), Nematologist Emeritus, Agricultural Experiment Station (1960).

Clayton, Harold Gray, M.S.A., Director Emeritus, Agricultural Extension Service (1956).

Cody, Madison Derrell, M.A., Professor Emeritus of Botany (1956).

Cody, Martha Ballard, M.A., Assistant Professor of Education (1957).

Corbo, Leo J., Ph.D. (Michigan State), Assistant Virologists, Agricultural Experiment Station. Deceased March 7, 1959.

Crago, Alfred, Ph.D. (Iowa), Head, Veterans Guidance Center (1950).

Crandall, Clifford Waldorf, LL.B., Professor Emeritus of Law (1949).

Davis, Anne Dorsey, B.S.E., Manatee County Home Demonstration Agent (1954).

Dawson, Charles Ralph, M.S.A., Seminole County Agent (1956).

Debruyn, John William, M.A., Professor of Music (1954).

DeBusk, Ezra Franklin, B.S., Citriculturist, Agricultural Extension Service (1947).

Dietz, John Wamser, M.A., Professor of Finance (1960).

Dolbeare, Harwood Burrows, B.A., Professor of Economics (1955).

Dostal, Bernard Francis, M.A., Associate Professor of Mathematics (1953).

Driggers, Albert Gilchrist, B.S.A., Gadsden County Agent (1956).

Dunn, Charlotte Delia, M.A., Instructor in Education (1950).

Eldridge, John Grady, M.A., Professor of Economics (1954).

Eshleman, Silas Kendrich, M.E., J.D., (Florida), Professor of Industrial Engineering (1957).

Evans, William Edgar, B.S.A., Sarasota County Agent (1949).

Farris, Lester Collins, M.A., Associate Professor of English (1948).

Fawcett, Mary Solte, B.A.E., Teacher-Dietitian, P.K. Yonge Laboratory School Cafeteria (1957).

Finlayson, E. H., Escambia County Agent (1949).

Frash, Edwin Stanton, M.E., Associate Professor of Mechanical Engineering (1954).

Fulford, C. A., Okeechobee County Agent (1945).

Gay, Eunice F., B.A., Brevard County Home Demonstration Agent (1952).

Glunt, James David, Ph.D. (Michigan), Professor of History and Americanism (1960).

Goette, William Louis, M.A.E., Instructor, P.K. Yonge Laboratory School (1953).

Graham, Klein Harrison, LL.D. (Tampa), Business Manager (1948).

Gratz, Levi Otto, Ph.D. (Cornell), Assistant Director, Agricultural Experiment Station; Plant Pathologist Emeritus (1954).

Gunn, June Rawls, B.S.A.E., Osceola County Agent (1954).

Hampson, Charles Marlowe, M.S., Professor of Extension Methods (1958).

Hart, Freeman Hansford, Ph.D. (Columbia), Associate Professor of Humanities (1960).

Hathaway, William Byron, M.A., Associate Professor Emeritus of Spanish (1944).

Henderson, Leon Nesbitt, Ed.D. (Columbia), Professor of Education and Head of Secondary Education. Deceased February 7, 1960.

Heuck, Carl Peter, B.S.A., Lee County Agent, Agricultural Extension Service (1958).

Horton, Sara, M.A., Hardee County Home Demonstration Agent (1958).

Hume, H. Harold, D.Sc. (Clemson), D. Litt. (Florida), Provost Emeritus for Agriculture; Dean Emeritus of the College of Agriculture (1949).

Kime, Charles Davidson, B.S., St. Lucie County Agent (1960).

Kokomoor, Franklin Wesley, Ph.D. (Michigan), Professor Emeritus of Mathematics and Astronomy and Head of Department (1960).

Lafitte, Elise Nolting, Gadsen County Home Demonstration Agent (1953).

Lafitte, Pearl Garnet, B.S., Duval County Home Demonstration Agent (1953).

Laird, Addison Shuler, M.S.A., Wakulla County Agent, Agricultural Extension Service (1958).

Lang, Gaines Barrett, Ph.D. (Illinois), Associate Professor of Mathematics. Deceased July 21, 1960.

Lawrenson, Raymond Earl, M.M., Associate Professor of Music. Deceased August 16, 1959.

Lawton, Albert Sidney, B.S., Duval County Agent (1952).

Lawton, Beverly Eldridge, B.S., Broward County Agent (1955).

Ledin, Robert Bruce, Ph.D. (Indiana), Associate Horticulturist, Sub-Tropical Experiment Station. Deceased July 9, 1959.

Lincoln, Francis Busy, Ph.D. (California), Horticulturist, Sub-Tropical Experiment Station (1959).

Logan, John Henry, B.S.A., Pinellas County Agent, Agricultural Extension Service (1958).

Maclachlan, John Miller, Ph.D. (North Carolina), Professor of Sociology and Anthropology and Head of Department; Analyst for Health Center, Deceased September 1, 1959.

MacLeod, Malcolm Lorimer, Ph.D. (Virginia), Associate Professor of English (1957).

Maguire, Lillian Irma, M.A., Instructor, P.K. Yonge Laboratory School (1953).

Maines, Orlando Melvin, B.S.A., Sumter County Agent (1960).

Martin, John Fletcher, LL.B., M.A., Director of Latin American Student Affairs (1952).

McCarty, Martin Edgar, M.A., Assistant Professor of Mathematics (1952).

McClellan, Margaret Cave, M.A., Assistant Professor of Speech. Deceased August 3, 1960.

McDavid, Ruby, District Home Demonstration Agent (1949).

McInnis, Sam W., M.A., Associate Professor of Mathematics (1958).

McLendon, Horace S., B.A., Soil Conservationist, Agricultural Extension Service (1953).

McNary, Robert Reed, Ph.D. (Cincinnati), Biochemist, Citrus Experiment Station (1959).

Mead, Arthur Raymond, Ph.D. (Columbia), Ed.D. (Miami), Director, Bureau of Educational Research and Professor Emeritus of Education (1950).

Miller, Lucie Kramer, B.S., Lake County Home Demonstration Agent (1954).

Mims, Bernice Ashburn, M.A., Associate Professor and Head, Department of General Information and Service, General Extension Division (1958).

Moore, Kingman Colquitt, B.S., Orange County Agent (1946).

Moskovic, Armin, Ph.D. (Vienna), Interim Assistant Librarian, Translation Service (1960).

Mounts, Charles Eugene, Ph.D. (Duke), Professor of English (1960).

Mowry, Harold, M.S.A., D.Sc. (Florida), Director Emeritus of the Agricultural Experiment Station (1950). Deceased November 12, 1958.

Newins, Harold Stephenson, M.F., Director Emeritus of the School of Forestry and Professor Emeritus of Forestry (1951).

Nieland, Louis Theodore, Farm Forester, Agricultural Extension Service (1957).

Noble, Clarence Vernon, Ph.D. (Cornell), Dean Emeritus of the College of Agriculture (1955).

Norman, James William, Ph.D. (Columbia), Dean Emeritus of the College of Education (1955).

O'Shaughnessy, Patrick Jerome, M.D. (Duke), Intern in Pediatrics. Deceased August 1, 1960.

Perry, William Sanford, M.S., Associate Professor of Physics (1947).

Phipps, Cecil Glenn, Ph.D. (Minnesota), Professor of Mathematics (1960).

Pitts, Edith Patti, Administrative Assistant to the President (1957).

Powell, Garland Wheeler, Director Emeritus of Radio Station WRUF (1956).

Price, George Sheldon, B.S., Colonel, Artillery, Professor of Military Science and Tactics and Coordinator of Military Departments (1954).

Pridgen, Ila Rountree, LL.B., Law Librarian (1955).

Quackenbush, Orville F., Ph.D. (Minnesota), Associate Professor of Social Sciences. Deceased August 29, 1959.

Radke, Patricia Huff, B.S., Instructor of Physical Education. Deceased March 6, 1960.

Randolph, John Willoughby, M.S., Agricultural Engineer, Everglades Experiment Station. Deceased April 18, 1960.

Reed, Percy Lawrence, M.S., Professor of Civil Engineering (1945).

Rhudy, Ralph, Colonel, Professor of Air Science and Tactics and Military Coordinator (1959).

Ritchey, George Edgar, M.S., Agronomist Emeritus, Suwannee Valley Experiment Station (1955). Deceased March 21, 1960.

Roesel, Tillie A., M.S.A., Sumter County Home Demonstration Agent (1952).

Rogers, Ruby Rose, M.A.E., Instructor in Education (1949).

Ruprecht, Rudolf William, Ph.D. (Mass. State), Chemist and Vice Director Emeritus, Central Florida Experiment Station (1959).

Sewell, Glenn McClellan, Columbia County Home Demonstration Agent (1960).

Shealy, Arthur Liston, D.V.M. (McKillip), Head Professor Emeritus of Animal Husbandry and Animal Husbandman and Head of Department, Agricultural Experiment Station and Agricultural Extension Service (1949).

Sheely, Walter Jefferson, B.S., Animal Husbandman, Agricultural Extension Service (1949).

Sherman, Harley Bakwel, Ph.D. (Michigan), Professor of Biology (1955).

Simpson, Thomas Marshall, Ph.D. (Wisconsin), Dean Emeritus of the Graduate School and Professor Emeritus of Mathematics (1951).

Skinner, Blanche Estelle, M.A.E., Instructor, P.K. Yonge Laboratory School (1955).

Skofield, Harriet Clark, M.A., Assistant Librarian, P.K.Yonge Library of Florida History (1958).

Slagle, Dean, LL.B., Professor Emeritus of Law (1958).

Smith, Joseph Gordon, M.A.E., District Supervisor of Vocational Education (1958).

Speer, Herbert Lawson, M.S.A., Assistant Palm Beach County Agent, Agricultural Extension Service (1958).

Spencer, Arthur Percival, M.S., Director Emeritus of the Agricultural Extension Service (1947). Deceased July 27, 1959.

Steffani, Charles Henry, Dade County Agent (1955).

Stevens, Grace Adams, M.A., Instructor in Elementary Education (1950).

TeSelle, Clarence John, LL.B., Professor of Law (1958).

Tigert, John James, M.A. (Oxford), Ed.D., D.C.L., D.Litt., L.H.D., F.R.S.A., LL.D., President Emeritus of the University (1947).

Tisdale, William Burleigh, Ph.D. (Wisconsin), Plant Pathologist Emeritus, Agricultural Experiment Station (1955).

Trusler, Harry Raymond, LL.B., Dean Emeritus of the College of Law (1947).

Vance, Edmund Hume, B.S.A., Hardee County Agent (1953).

White, Alex, B.S.A., Hillsborough County Agent (1960).

Whitfield, Pearl J., Gulf County Home Demonstration Agent (1945).

Wilder, Bennie F., Madison County Home Demonstration Agent (1952).

Wilkins, Mitchell, B.S.A., Walton County Agent (1953).

Williams, Osborne, Ph.D., (Chicago), Assistant Professor of Psychology (1960).

Willoughby, Claude Houston, M.A., Professor of Animal Husbandry (1947).

Wilson, William Harold, Ph.D. (Illinois), Professor Emeritus of Mathematics and Logic; Counselor (1959).

Woods, William Lile, B.A., DeSoto County Agent (1957).

Yonge, Julian Chandler, Director, P.K. Yonge Library of Florida History (1958).

Ziegler, Edwin Allen, M.A., D.Sc. (Franklin and Marshall), Professor Emeritus of Forest Economics and Management (1951).

General Information

HISTORICAL NOTE

The University of Florida is a combined state university and land-grant college located in the northern center of the State. While its beginnings go back to the days previous to Florida's admission to the Union in 1845, its first college—the College of Arts and Sciences—did not open until 1853. A few years later the passage of the Morrill Act provided lands for state institutions of higher learning which would promote agriculture, mechanical arts, and military science, resulting in the beginnings of the College of Agriculture, the College of Engineering, and the Agricultural Experiment Station.

By 1905 there were a half-dozen state-supported institutions of higher learning in Florida, located in various parts of the State and struggling for existence. At that time the Florida Legislature took a step unprecedented in the history of education in any state by passing the Buckman Act which abolished the six State Colleges and provided for the establishment of two new institutions, of which the University of Florida was one. It was established, for men, at Gainesville and placed under the direction of the Board of Control, a body created by the Buckman Act. The seven members of the board represent the seven geographical sections of the State, and serve without compensation, except for travel and incidental expense incurred in the performance of duty. Under the Constitution of Florida all responsibility for the State educational institutions is vested in the State Board of Education, an ex-officio body composed of the Governor, the State Superintendent of Public Instruction, the Secretary of State, the Attorney General, and the State Treasurer. All acts of the Board of Control are subject to the approval of the Board of Education. In 1947 the University was made co-educational.

SETTING AND ENVIRONMENT

The University of Florida is located in Gainesville, a city of approximately 45,000, excluding University of Florida students. Situated in north central Florida, midway between the Atlantic Ocean and the Gulf of Mexico, the city is known as an agricultural and small industrial center.

In addition to a moderate climate, Gainesville offers many other advantages to students of the University. A golf course is within easy reach of the campus, and swimming and boating accommodations are available at nearby springs and rivers. The lakes in the vicinity abound in fresh water fish, while the Atlantic Ocean and the Gulf of Mexico are within a two hours' drive. As the seat of Alachua County, the city is the focal point of diversified industrial and farming activities.

Practically every religious denomination is represented in the Gainesville area. Churches that are active include the Presbyterian, Baptist, Lutheran, Methodist, Catholic, Episcopal, Christian, Seventh Day Adventist, Church of Christ Scientist, Church of Christ, Christian and Missionary Alliance, Advent Christian, B'nai Israel, Church of Latter Day Saints, Church of the Nazarene, Assembly of God, Apostolic Church of Jesus Christ, Church of God, Disciples of Christ, Pentecostal Holiness, and several of these denominations maintain chapels adjacent to the campus. These include St. Augustine Chapel, (Catholic Student Center), The Baptist Student Union, Wesley Foundation (Methodist Student Center), Chapel of the Incarnation (Episcopal Student Center), Westminster Fellowship (Presbyterian Student Center,) The Church of Christ, B'nai B'rith Hillel Foundation (Jewish), the Lutheran Student Association, and the Society of Friends (Quaker), which is in Florida Union.

All of the chapels carry on extensive programs of vital interest to University students.

TRANSPORTATION

The city is served by the Atlantic Coast Line Railroad and the Seaboard Air Line Railway. A schedule of daily bus service, with connections to all points in the United States, is maintained by the Southeastern Greyhound Lines. A Union Bus Station is maintained by the Southeastern Greyhound Lines. Eastern Air Lines serves Gainesville with daily flights with connections to all parts of the United States.

ORGANIZATION AND GOVERNMENT OF THE UNIVERSITY

Direct supervision over the University of Florida, its policies and affairs, is vested in the Board of Control, a body composed of seven citizens from different regions of the state who are appointed by the Governor for a four year term. All actions of the Board of Control are subject to the final approval by the State Board of Education, composed of the Governor, who is chairman, the Secretary of State, the Treasurer, the Attorney General and the Superintendent of Public Instruction, secretary.

University affairs are administered by the president with advice and assistance of the Academic Council and the Administrative Council. The legislative body of the University is the University Senate.

UNDERGRADUATE INSTRUCTION
THE LOWER DIVISION

THE UNIVERSITY COLLEGE administers all of the work for the freshman and sophomore years, offering a program which includes the basic comprehensive courses in the major areas of knowledge and the courses prerequisite to the advanced work in the colleges and schools in the Upper Division. Upon the successful completion of the University College program, a student receives the Certificate of Associate of Arts.

THE UPPER DIVISION

THE COLLEGE OF AGRICULTURE offers curricula in all of the major fields of agriculture and grants the degree of Bachelor of Science in Agriculture.

THE COLLEGE OF ARCHITECTURE AND FINE ARTS offers curricula in architecture, interior design, landscape architecture, building construction, fine arts, history of art, crafts, advertising design, art education and music, and confers the degrees of Bachelor of Architecture, Bachelor of Design, Bachelor of Landscape Architecture, Bachelor of Building Construction, Bachelor of Fine Arts, and Bachelor of Design in Art Education.

THE COLLEGE OF ARTS AND SCIENCES offers curricula leading to degrees of Bachelor of Arts, Bachelor of Science, Bachelor of Science in Chemistry, Bachelor of Science in Biology and Bachelor of Science in Geology with opportunities for specializing in all the science and liberal arts field. It gives the courses in mathematics, sciences, social sciences and humanities required in the curricula of the professional Colleges.

THE COLLEGE OF BUSINESS ADMINISTRATION offers curricular programs leading to the degrees of Bachelor of Science in Business Administration. It also offers a specialized program leading to the degree of Bachelor of Advanced Accountancy.

THE COLLEGE OF EDUCATION has curricula in elementary and secondary school instruction leading to the degrees of Bachelor of Science in Education or Bachelor of Arts in Education. It also provides an in-service program for the teachers of the state. The P. K. Yonge Laboratory School, a unit of the College of Education, enrolls pupils from the kindergarten through the secondary school.

THE COLLEGE OF ENGINEERING offers curriculums leading to the degrees of Bachelor of Aeronautical Engineering, Bachelor of Agricultural Engineering, Bachelor of Chemical Engineering, Bachelor of Civil Engineering, Bachelor of Electrical Engineering, Bachelor of Engineering Sciences, Bachelor of Industrial Engineering, Bachelor of Mechanical Engineering, and Bachelor of Metallurgical Engineering.

THE SCHOOL OF FORESTRY is a unit of the College of Agriculture, offering professional majors in Forest Management, Forest Products Technology and Wildlife Management leading to degree Bachelor of Science in Forestry.

COLLEGE OF HEALTH RELATED SERVICES, a unit of the J. Hillis Miller Health Center, offers curricula leading to a Bachelor of Science in Medical Technology, a Bachelor of Science in Occupational Therapy, and a Bachelor of Science in Physical Therapy.

THE SCHOOL OF JOURNALISM AND COMMUNICATIONS offers curricula leading to the degrees of Bachelor of Science in Journalism, Bachelor of Science in Advertising, and Bachelor of Science in Broadcasting.

THE COLLEGE OF LAW offers a curriculum leading to the degree of Bachelor of Laws.

THE COLLEGE OF MEDICINE, a unit of the J. Hillis Miller Health Center, offers a curriculum leading to the Doctor of Medicine.

THE COLLEGE OF NURSING is a unit of the J. Hillis Miller Health Center, offers a curriculum leading to the degree Bachelor of Science in Nursing.

THE COLLEGE OF PHARMACY, a unit of the J. Hillis Miller Health Center, offers a curriculum leading to the degree of Bachelor of Science in Pharmacy.

THE COLLEGE OF PHYSICAL EDUCATION AND HEALTH offers services and training through the Department of Student Health; the Departments of Required Physical Education for Men and Women; the Department of Intramural Athletics and Recreation; and the Department of the Professional Curriculum. The degrees offered in this department are: Bachelor of Science in Physical Education; Bachelor of Science in Health Education; Bachelor of Science in Recreation; and Bachelor of Science in Physical Therapy.

SPECIAL INSTRUCTIONAL UNITS SERVING ALL COLLEGES AND SCHOOLS

THE DEPARTMENT OF MUSIC has the responsibility for such musical organizations as the University Bands, Orchestras, Choruses, and Glee Clubs, and offers courses in the following areas: (1) Theory of Music, (2) History, Literature and appreciation, (3) Applied Music, (4) Music Education, and (5) Ensemble Music.

THE DIVISION OF MILITARY SCIENCE offers the four year program of the Army R.O.T.C. Completion of this program by a student leads to his being commissioned in one of the branches of the United States Army Reserve or the Regular Army. Flight (Pilot) training is available for selected Senior Cadets.

THE DIVISION OF AIR SCIENCE gives the four-year program of the ROTC leading to a reserve commission in the Air Force. Women who qualify are also eligible to apply for a commission as second lieutenant in the Air Force upon graduation.

THE DEPARTMENTS OF REQUIRED PHYSICAL EDUCATION administer the programs in physical fitness and sports, required of all students.

GRADUATE INSTRUCTION

THE GRADUATE SCHOOL offers programs leading to the degrees of Doctor of Philosophy in more than thirty fields, Doctor of Education, Specialist in Education, Master of Arts in Physical Education and Health, Master of Arts in Journalism and Communications, Master of Arts, Master of Science, Master of Arts in Education, Master of Arts in Architecture, Master of Science in Community Planning, Master of Science in Building Construction, Master of Fine Arts, Master of Science in Agriculture, Master of Science in Engineering, Master of Science in Jharmacy, Master of Business Administration, Master of Agriculture, Master of Education, Master of Physical Education and Health, and Master of Rehabilitation Counseling. All instruction is carried on by the faculties of the colleges and schools listed above.

STUDENT LIFE

Description of the various services, facilities and activities and regulations concerned with student life will be found elsewhere in the catalog. The Office of the Dean of Student Affairs has responsibility of coordinating a majority of these factors affecting non-instructional aspects of student life.

INSTRUCTIONAL SERVICE UNITS

THE DEAN OF ACADEMIC AFFAIRS serves as staff officer, advisory to the President, and on orders from the President or in the absence of the President and the Vice President, performs the duties of the President. He assists in the improvement of instruction, the correlating of instructional activities, the adjusting of teaching loads, and in keeping personnel records of the academic staff. The Dean of Academic Affairs normally is the first point of contact between all instructional units and the Office of President.

THE BOARD OF UNIVERSITY EXAMINERS is responsible for admission and placement testing and for the measurement of achievement in the comprehensive courses in the University College.

THE BUSINESS MANAGER is responsible for all business activities and financial operations. His responsibilities include the collection and disbursement of funds, purchasing, management of the auxiliary services, control of property, non-academic personnel, auditing and maintenance of the physical plant and grounds of the University.

THE SCHOOL OF INTER-AMERICAN STUDIES, founded in 1951, combines the functions previously exercised by the Institute of Inter-American Affairs (dating from 1930) and the Graduate School of Inter-American Studies (created in 1950). The School has the following general aims: (1) To foster international good will among all the Americas, (2) to promote the teaching of Western Hemisphere languages and civilization in schools, colleges and universities, (3) to encourage the exchange of students and professors between colleges and universities of the Americas, (4) to hold conferences and institutes on inter-American affairs, (5) to stimulate research, and the publication of specific studies common to the Americas, (6) to promote an exchange of cultural ideas and ideals, (7) to advance inter-American interests in all fields of human endeavor, and (8) to cooperate with all individuals, organizations, and agencies having similar objectives.

The School is administered by a Director and an Assistant Director appointed by the President of the University. Assisting in the administration of the school are an inter-American Committee, concerned with general policy, and a Special Graduate Faculty concerned with general supervision of master's and doctoral candidates. A U. S. Advisory Committee and a Latin American Advisory Committee cooperate with the School in off-campus activities.

The faculty of the School is drawn from all University departments which offer courses having subject matter related to inter-American topics. The School administers an Area Study program leading to the master's and doctor's degrees. The School also advises students registered in the several academic departments and divisions of the University when they take courses dealing with inter-American subjects.

THE COUNSELOR TO LATIN AMERICAN AGRICULTURAL STUDENTS aids Latin American students to integrate their American education more completely with actual conditions in their homelands; also, the office gives information to all students interested in Latin American agricultural problems and careers in the tropics. The Counselor is located in Dan McCarty Hall, Room 117.

THE OFFICE OF THE REGISTRAR has charge of the admission and registration of students, the maintenance of academic records, and the issuance of transcripts of student records.

UNIVERSITY OF FLORIDA LIBRARY SERVICE

The University Libraries, comprising the General Library and 11 school and college libraries, contained 875,088 volumes and were receiving 9,280 serials as of June 30, 1960.

The larger part of the resources are housed in the General Library stacks and the four divisional reading rooms. On the first floor is the University College Reading Room, with some 8,000 volumes useful to students in the first two years of college. The Humanities Reading Room and the Social Sciences Reading Room, which serve as centers of library activity for upperclassmen in the humanistic and the social studies, are on the second floor. In each of these rooms are approximately 15,000 selected books and the current issues of learned journals. The Science Reading Room, with materials for psychology, general science, mathematics, physics, geology and geography, is on the third floor.

For recreational use, facilities in the General Library include the Browsing Room and six music listening rooms. Seminar rooms, carrells, and study cubicles are available to faculty members and graduate students. Interlibrary loan and photoduplication services provide research materials not available on the campus.

The resources of the General Library are particularly strong in Floridiana, due to the P. K. Yonge Library of Florida History, which is located on the first floor. In recent years, special emphasis has been placed upon strengthening the holdings for the Latin-American Area Studies Program, especially for the West Indies and Caribbean areas. Special Collections of the University Libraries include Rare Books, the Marjorie Kinnan Rawlings Collection, which consists of manuscripts, typescripts and memorabilia of one of America's most distinguished novelists; the Collection of Creative Writing, which includes worksheets, manuscripts, and other literary papers of significant contemporary American and British authors; and the Dance and Music Archives, which is an extensive collection of pictures, programs, photographs and other documentary material relating to the lyric theater.

Libraries for the Colleges of Agriculture, Architecture and the Fine Arts, Chemistry, Pharmacy, Education, Engineering, Forestry, Law, Medicine, Nursing, and Physical Education and Health are located in or near the buildings which house the respective instructional units. The book resources serving the extension activities of the University are located in the Seagle Building. The P. K. Yonge Laboratory School Library is in Building F of the Laboratory School.

The regular schedule for the General Library is Monday through Friday; 8:00 A.M. to 10:00 P.M.; Saturday, 8:00 A.M. to 5:00 P.M.; Sunday, 2:00 P.M. to 5:00 P.M., and 7:00 P.M. to 10:00 P.M. The departmental libraries; with some variations, observe a similar schedule.

GENERAL STATE AND UNIVERSITY AGENCIES

THE AGRICULTURAL EXTENSION SERVICE is the field arm of the University of Florida and the United States Department of Agriculture in educational work relating to agriculture and home economics. It is one of three major divisions of agriculture at the University of Florida, the other two being research and teaching. The Agricultural Extension Service works with both adults and youth, the latter primarily through 4-H Clubs.

In cooperation with Boards of County Commissioners, the Agricultural Extension Service jointly employs agricultural agents in 66 counties. These agents work with local people to determine their educational needs. Programs are developed based on these needs and teach the practical application of agricultural and home economics research information. The agents are academic staff members of the University of Florida, appointees of the United States Department of Agriculture and employees of their respective counties.

Educational assistance is given the people of Florida on many agricultural problems such as commercial crop and livestock production and marketing. Some programs focus on home surroundings, furnishings and equipment, foods and nutrition, health and safety, clothing and family life. Efforts are also directed to many other areas such as farm and home business management, consumer education, community development, leadership development and public affairs.

The Agricultural Extension Service has a staff of agricultural specialists officed at the University of Florida and home economics specialists at Florida State University. These specialists keep in touch with the latest observations and findings by the Florida Agricultural Experiment Stations, the United States Department of Agriculture and other pertinent sources of information. They analyze and interpret this information in terms of its application to given areas and problems, and keep the agents in each county informed on research of concern to the people in that county. Cooperative efforts with organizations and other agencies are vital parts of the programs over the state.

Information is disseminated by the Agricultural Extension Service through many methods such as demonstrations, meetings, tours, visits to farms and homes where individual attention is given to problems, and personal contacts in offices or by telephone. Wide use is made of radio, television, news articles, and publications. Short courses, institutes and conferences are held throughout the state and on the campus in cooperation with agricultural and home demonstration groups.

THE GENERAL EXTENSION DIVISION organizes and supervises extension classes, workshops and correspondence courses for Florida citizens who wish to continue their college educations. It also conducts short courses, conferences, and institutes for professionnal, educational, occupational, and cultural groups; provides loan collections of books and audio-visual aids; and maintains adult education consultation services for individuals and organizations. The Division also serves all state institutions of higher learning whose faculties participate in its programs.

THE NEWS BUREAU coordinates the work of interpreting the University's aims, policies and needs through the media of newspapers, magazines, radio, television, motion pictures, special brochures, photographic displays, and exhibits.

THE DIVISION OF ALUMNI AFFAIRS maintains contact with alumni of the University of Florida and coordinates the activities of the various alumni clubs. It is also the headquarters office of the University of Florida Alumni Association, working closely with that organization in fund raising, promotion of alumni reunions, publication of the FLORIDA ALUMNUS, a quarterly magazine, and other periodicals of interest to alumni. It aids in the promotion of the University of Florida Endowment Corporation and many other activities for the benefit of the University of Florida and its student body.

THE FLORIDA STATE MUSEUM was created by an act of the Legislature in 1917 as a Department of the University of Florida.

The Museum resembles other university-affiliated museums in that it operates as a research center as well as a center for the diffusion of knowledge through exhibits. In addition to the general administrative section of the Museum, headed by the director, there are three departments within the organization: a Department of Natural Sciences, staffed by scientists who are concerned with studying and expanding the research collections in natural science; a Department of Social Science, staffed by anthropologists who study historic and prehistoric cultures; a Department of Exhibits, staffed by specialists in the interpretation of knowledge through museum exhibit techniques.

The Museum exhibition halls occupy the first two floors of the Seagle Building, a ten-story office building located in downtown Gainesville about a mile from the campus. These halls are open to the public from nine-thirty until five o'clock every day except Sundays and major holidays when they are open from one to five o'clock. There is no admission charge. The Museum is frequently used by University and public school classes and is visited by over 75,000 persons annually.

The third floor and some space in Flint Hall are used for offices and for the storage of the research collections which now total approximately one-half million items. These collections are under the care of curators who encourage the scientific study of the Museum's holdings. Materials are constantly being added to the collections both through gifts from friends and collecting by staff members. The archeological collections are especially noteworthy. There are also study collections of birds, mammals, insects, mollusks, reptiles, amphibians, fish and vertebrate fossils. The latter seven collections are being cooperatively maintained by the Museum and Department of Biology. Opportunities are provided for students, staff, and visiting scientists to use the collections. The Board of Associates, which is comprised of faculty members with strong interests in the research collections, serves to promote the proper utilization of Museum materials. Field work is presently sponsored in the archaeological, paleontological and zoological fields.

The Exhibits department has been constructing site museums for State parks in Florida. The Museum lends scientific specimens to other investigators; exchanges exhibit materials with other institutions; and carries on most other functions normally associated with a public and university museum.

THE UNIVERSITY CENTER OF THE ARTS serves students, faculty, and the general public by presenting exhibitions of the best contemporary work in architecture, community planning, crafts, furniture, industrial design, painting, sculpture, prints, and other visual arts.

WRUF, State and University of Florida Radio Station, operates on 850 Kilocycles with a power of 5,000 watts. WRUF-FM operates on 104.1 megacycles with a radiated power of 12,000 watts. They are both affiliated with the National Broadcasting Company and originate from the University of Florida Football Network. WRUF has one of the largest recorded libraries of any radio station in the country, and has UP-I news service.

One of WRUF's more important functions is that of furnishing practical experience to students enrolled in the radio programs of the University. The extent to which this policy is applied is demonstrated by the fact that the operating personnel of WRUF consists almost entirely of University students specializing in radio work, and the effectiveness of this training is demonstrated by the nationwide reputation which WRUF has achieved for the developing of some of this country's leading announcers and radio executives. The various radio curricula in addition to proving this practical operating experience require a selection of courses from many of the departments of instruction of the University. The student is taught an awareness of the social obligations placed on any medium whose purposes include entertainment, information, education, and cultural advancement. He is given the broadest possible background, to the end that the social implications of radio as a medium for influencing the public may be recognized and acted upon. These are important aspects of the program and should be the beginning of the building of a breadth of viewpoint on the part of the student which he will continue to cultivate by reading and study after he has completed the training program.

WRUF and WRUF-FM employ approximately twenty to thirty students in their operations which gives these students commercial operation experience as WRUF is a commercial non-tax supported auxiliary of the University of Florida.

All student personnel used by Stations WRUF and WRUF-FM are selected and hired on the basis of necessity on the part of the Stations, and talent, attitude, scholarship

requirements (2.0), fitness for job and future college program on the part of the students, as determined by personal interviews and/or open auditions with and for the Station's executive personnel. Open auditions are announced publicly, however preference is given those applying who plan future activity in broadcasting.

WUFT, UNIVERSITY OF FLORIDA EDUCATION TELEVISION STATION, operates on Channel 5. It is affiliated with National Educational Television (NET), the National Association of Educational Broadcasters, and it is a unit of the Florida Educational Television Network.

WUFT's function is three-fold: (1) to broadcast classroom courses, as well as other informative programs, so that as many persons as possible may share in higher education and its attendant cultural environment; (2) to help advance the techniques of teaching through television; (3) to provide University students with practical training in television broadcasting to supplement their broad academic background.

With the exception of those persons in executive positions, WUFT is operated entirely by students.

WUFT's modern studios are located in the School of Journalism and Communications. The transmitter is located north of Gainesville.

THE UNIVERSITY OF FLORIDA PRESS. The purpose of the University press is to encourage, seek out, and publish original and scholarly manuscripts which will aid in developing the University as a recognized center of scholarship and research.

The Press edits and publishes under its own imprint scholarly books and monographs, as well as addresses, pamphlets, reports, and bulletins for special purposes. It has no responsibility for, or connection with, the editing and publishing of official university publications such as the University Record Series, the publications of the Agricultural Experiment Station, the Agricultural Extension Service, and the Engineering and Industrial Experiment Station.

ORGANIZED RESEARCH

THE OFFICE OF CONTRACT RESEARCH has been established for the purpose of coordinating the relationships of the University with outside agencies interested in the sponsorship of fundamental and applied research. All proposals for the sponsorship of research grants-in-aid must receive the approval of the Director of Research. Subsequent negotiations with potential contracting agencies or sponsors of research projects are carried on under the Director. All contracts are subject to the final approval of the Board of Control.

THE AGRICULTURAL EXPERIMENT STATIONS are responsible for extensive organized research leading to the improvement of all phases of Florida's widely varied agricultural production, processing and marketing. The Stations are administered by the Director located on the University of Florida campus and include Main station departments as well as branch stations and field laboratories operating as an integral administrative unit.

Many members of the research staff of the Agricultural Experiment Stations are also members of the faculty of the College of Agriculture as are some in the Agricultural Extension Service. These three Agricultural Units of the University work cooperatively in many areas under the administration of the Provost for Agriculture. While Agricultural research is the primary objective of the Agricultural Experiment Stations, funds for Research Assistants are made available to encourage graduate training and professional scientific improvement.

Results of the research of the Agricultural Experiment Stations are published in scientific journals, bulletins, circulars, mimeographed reports and the *Sunshine State Agricultural Research Report* and are available to Florida residents without charge upon request to the Editoral Department of the Agricultural Experiment Station at Gainesville. The Agricultural Experiment Station cooperates closely with the Agricultural Extension Service in providing research findings for prompt dissemination.

Research at the Main Station is conducted within 16 departments—agricultural economics, agricultural engineering, agronomy, animal husbandry and nutrition, botany, dairy science, entomology, food technology and nutrition, forestry, fruit crops, ornamental horticulture, plant pathology, poultry husbandry, soils, vegetable crops and veterinary science. In addition to the above the Main station has four units vital to its research programs, namely: editorial, library, field operations and statistics section.

In order to best serve the varied needs of Florida's diversified agriculture, branch

stations and field laboratories are located at numerous locations having different climatic conditions, soil types and crops. Intensive research is conducted in all fields of agriculture such as citrus, vegetables, field crops, livestock, pastures, and many others.

The branch stations and field laboratories, and their locations, are as follows: Central Florida Station, Sanford; Citrus Station, Lake Alfred; Everglades Station, Belle Glade; Gulf Coast Station, Bradenton; North Florida Station, Quincy; Range Cattle Station, Ona; Sub-Tropical Station, Homestead; Suwannee Valley Station, Live Oak; West Florida Station, Jay; Indian River Field Laboratory, Fort Pierce; Plantation Field Laboratory, Fort Lauderdale; South Florida Field Laboratory, Immokalee; Potato Investigations Laboratory, Hastings; Pecan Investigation Laboratory, Monticello; Strawberry Investigations Laboratory, Plant City; and the Watermelon and Grape Investigations Laboratory, Leesburg.

Certain phases of the research program are cooperative with the United States Department of Agriculture and other Federal departments as well as cooperative with numerous Florida Agricultural agencies and organizations.

The Florida Agricultural Experiment Station is cooperating with the West Central Florida Station, Brooksville, a USDA field laboratory, in its beef cattle and pasture production and management programs; and with the United States Weather Bureau, Lakeland, in the Federal Frost Warning Service for fruit and vegetable producers and shippers.

THE FLORIDA ENGINEERING AND INDUSTRIAL EXPERIMENT STATION is not only the research division of the College of Engineering but it is also the development laboratory for the industries of the State. It was officially established in 1941 by the Legislature as an integral part of the College of Engineering "to organize and promote the prosecution of research projects of engineering and related sciences, with special reference to such of these problems as are important to the industries of Florida."

The facilities of the Station include all the equipment of the College of Engineering, now valued at more than $3,000,000, not including government owned equipment. The Station also has available for its use the laboratories, staff and facilities of other divisions of the University. Because of the close relations that exist between teaching and research activities, students secure much practical information about engineering and industrial problems which would normally not be encompassed in a collegiate program.

The Station receives only a small portion of its operating revenue from the State. The remainder is derived from contracts with federal agencies and industrial organizations. Large and small manufacturers avail themselves of the finest research laboratories in the Southeast. Among the outstanding laboratories in addition to a well equipped shop, are those in Public Health Engineering; Electronics; Ionics; Metallurgy; Chemical Engineering; Air Conditioning; Soil Mechanics; Electric Machinery, Paper, Pulp, and Wood Products Utilization; Farm Mechanization; Corrosion; Aircraft Model Wind Tunnel; Reinforced and Pre-Stressed Concrete; Coastal Engineering Laboratory; and Cobalt Source.

Nuclear reactors are in operation in the College of Engineering. A linear accelerator is under construction and will be in operation during the academic year.

THE BUREAU OF AGRICULTURAL AND COMMUNITY RESEARCH is one of the activities of the College of Architecture and Fine Arts.

THE BUREAU OF ECONOMIC AND BUSINESS RESEARCH is the Research Division of the College of Business Administraton. A part of the work of the Bureau is to provide economic and business information about Florida. By published reports of special research and through the monthly Economic Leaflets (sent free to any resident of Florida upon request) the results of research work are available to all residents of Florida. Consultant services are rendered the business community, civic groups, and government. The Bureau makes it possible for teaching professors to engage in organized research and provides research training for graduate students.

THE NAVAL STORES RESEARCH LABORATORY conducts basic research on the methods of purification, determination of physical and thermodynamic properties, and the nature of reactions of the compounds contained in naval stores.

Inasmuch as the chemistry of these compounds is similar to the compounds dealt with in the citrus industry, the program is designed to aid both of these important Florida industries. The organization is under the jurisdiction of the Department of Chemistry. Special research assistantships are available.

THE PUBLIC ADMINISTRATION CLEARING SERVICE is a research, training, and service adjunct of the Department of Political Science in the College of Arts and Sciences. It carries on a continuous program of research on public administration and public policy in Florida; it provides consulting services to state, country, and local govern-

ments in Florida; it publishes research and surveys of governmental and administrative problems in both scientific and popular monograph form. In broad areas of public policy and public service training, it works in cooperation with other units of the University. With the General Extension Division, it cooperates in the planning and conduct of training programs and annual short courses for public officials and employees, such as the Short Course for City Managers, that for the Municipal Finance Officers, and institutes for planning officials.

THE RESEARCH DIVISION OF THE SCHOOL OF JOURNALISM AND COMMUNICATIONS conducts research in the news media, in broadcasting, advertising, and public opinion.

STATISTICAL LABORATORY. The laboratory regularly furnishes consulting, punch card and other computing services, including time on the IBM 850 electronic computer to research projects of graduate students, faculty and staff as well as to governmental and other agencies. The laboratory is a separate budgetary unit of the University and reports to the President through the Director of Research.

THE J. HILLIS MILLER HEALTH CENTER

THE HEALTH CENTER, an integral part of the University of Florida, is located on the south side of the Gainesville campus and is generally regarded as one of the most modern centers of health and medical education and patient care in the nation.

The Center includes the Colleges of Medicine, Nursing, Pharmacy, Health Related Services and the Teaching Hospital and Clinics. Students from the various disciplines all train together in the Health Center environment for the philosophy of the Health Center's educational program is the concept that students who are trained together will work better together in their professional careers.

The physical plant includes the Medical Sciences Building, opened in 1956 and the Teaching Hospital and Clinics, activated in 1958. Under Construction is the Pharmacy-Research wing, which will house the College of Pharmacy and additional research facilities for the College of Medicine. It will be activated in the fall of 1961.

Named for the late president of the University of Florida, J. Hillis Miller, the Health Center's faculty was carefully recruited over a period of years and include many noted teachers, researchers, administrators and physicians.

SUMMER SESSION

During the summer months the University operates an eight weeks Summer Session. The Summer session provides a means for acceleration of program for the students of the Regular Session with a selected list of offerings from each of the Colleges and Schools.

The offerings of the College of Education are expanded during the summer session to include more courses that are suitable for in-service teachers. Graduate and undergraduate courses especially helpful to teachers in both the elementary and secondary fields are offered in many departments in other colleges of the University.

SOUTHERN REGIONAL GRADUATE SUMMER SESSION IN STATISTICS

At the request of the Southern Regional Education Board's Advisory Commission on Statistics, the University of Florida, the North Carolina State College, Virginia Polytechnic Institute and Oklahoma State University have initiated a continuous program of graduate summer sessions in statistics to be held at each of the four institutions in rotation beginning in the summer of 1954. The 1960 session was held at the University of Florida and the 1961 session will be held at Virginia Polytechnic Institute. Each of the sponsoring institutions will accept the credits earned by students in the session as residence credit. The courses are arranged to provide consecutive work in successive summers and are of six weeks' duration. Information regarding these courses may be obtained from any of the cooperating statistical departments or the Dean of the Graduate Schools concerned.

Admissions

APPLICATION FOR ADMISSION

Application for admission to any College, School or Division of the University must be made to the Admissions Section of the Office of the Registrar on the forms prescribed and by the dates indicated in the University Calendar. It is quite proper to correspond with Deans, Directors or Department Heads but such contact with University officers does not in any way eliminate the necessity for filing a formal application in the Office of the Registrar by the dates specified.

How to Apply: *Address the Director of Admissions asking for application forms. As the forms and directions for completing application vary for each of the categories below (Sections I thru VII) it will expedite matters to indicate that forms are being requested for application for admission as a Freshman, an Undergraduate Transfer, Graduate, Medical or Law student as the case may be.*

When to Apply: *Applications can be made a year in advance of the expected date of enrollment. A minimum of three months before the beginning of the term is strongly recommended. Applications for the semester beginning in September must be on file at least six weeks before the opening date and for the second semester at least four weeks before the close of the first semester. (See University Calendar for last date on which applications will be accepted.)*

GENERAL STATEMENT

A brief summary of the requirements for admission to any college or division of the University, at any level (freshman, undergraduate, graduate) is as follows:

1. a satisfactory academic record
2. satisfactory scores for achievement tests or examinations
3. a satisfactory conduct record.

Variations in the specific requirements under these general categories are set forth below.

The admission requirements have been arrived at after a very careful study of the experiences of thousands of students over a long period of years. In every case there are minimum requirements that have evolved from studies of student performance at the University of Florida. These studies have had as a primary objective the identification of factors that would indicate a reasonable chance for successful completion of University work.

The Board of University Examiners is the agency responsible for administering all admissions to the University and its various components.

Students who are planning to enter the University of Florida for the first time will be considered for admission as follows:

Freshmen (those who have never attended any college)

1. If the student is entering the University from high school and has not attended college, he will be considered for admission to the University College. (See Section I).

Undergraduate Transfer Students

2. If the student is transfering to the University from another college or university and is presenting less than 64 semester hours of acceptable college credit for advanced standing, he will be considered for admission to the University College. (See Section II).
3. If the student is transferring to the University from another college or university and is presenting 64 semester hours or more of acceptable college credit as advanced standing toward a baccalaureate degree, he will be considered for admission to the Upper Division school or college of his choice providing his record indicates the completion of college work approximately equivalent to the comprehensive courses offered by the University of Florida in the areas of the Social Sciences, the Physical Sciences, English, the Humanities and the Biological Sciences. (See Section III).

Graduate Students (candidates for Master's or Doctor's Degrees)

4. If the student wishes to pursue graduate studies and has been graduated from an accredited college or university, he will be considered for admission to the Graduate Division. (See Section IV).

Medical Students (See Section V).

Law Students (See Section VI).

ADMISSION TO THE UNIVERSITY COLLEGE

SECTION I—FRESHMEN (APPLICANTS WHO HAVE NEVER ATTENDED COLLEGE)

A. Graduates of Florida High Schools:

1. Graduation from an accredited high school with a satisfactory record (acceptable grades in college preparatory subjects) is required. No specific units are required but students applying for admission to the University of Florida are advised to emphasize in their high school programs the following subjects: English, social studies, mathematics, foreign languages and the natural sciences.
2. Minimum Standing on the Placement Tests of the Florida 12th Grade Testing Program. All applicants must take the placement test before being admitted to the University. These are achievement tests in the fields of English, mathematics, social studies, and natural sciences. Attainments in these fields are possible without specifiic high school courses and are not guaranteed by the acquiring of certain high school units. Graduates of accredited Florida secondary schools who attain scores on the Florida State-Wide 12th Grade Testing Program tests which place them above the scores attained by the lowest 40% of the high school seniors of the state are academically eligible for admission. The University may re-test any applicant prior to admission to validate the scores attained in the State Program.
3. High school graduates who do not meet the above requirements may apply for special consideration. In each case the application will be considered on an individual basis, and any, or all, or any combination of the following types of evidence may be used in appraising the eligibility of the student for admission to the university: a personal interview, grades and rank in class, reference to the student's cumulative high school files, recommendation of the high school principal, and/or review of the results of tests already given or requested by the university admissions committee. After reviewing the evidence called for, the Board of University Examiners may grant or deny admission. In such cases the University will give considerable weight to results on such other tests as are recommended by the Board of Examiners.
4. Non-Florida students entering the University as first time freshmen must, in addition to meeting the requirements stated in 2., above, have graduated from an accredited high school with standing in the upper half of their graduating class. They must also present recommendations from the high school principal or school superintendent. Non-Florida applicants are urged to take the College Entrance Board Examinations, the results of which can be satisfactorily compared with the tests of the Florida Program so as to avoid the expense of coming to Gainesville to take the Florida Tests.

SECTION II—TRANSFER STUDENTS*

1. *Honorable Dismissal.* The student must be eligible to return to the institution last attended. Students who *for any reason* will not be allowed to return to the institution last attended cannot be considered for admission.
2. *Satisfactory record.* All transfer students must have made an average of C or higher (as computed by The University of Florida grade point system) on all work attempted at all institutions previously attended to be considered for admission.
3. Undergraduate transfer students shall be required to make a satisfactory score on a general ability test.

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*The student who has attended any college or university, regardless of the amount of time spent in attendance or credit earned, is regarded as a transfer student.

4. The University of Florida accepts on transfer only those courses completed at other institutions with grades of C or higher and that are acceptable in the curriculum for which the applicant enrolls.

ADMISSION TO THE UPPER DIVISION

FROM THE UNIVERSITY COLLEGE

See elsewhere in this bulletin the various programs of the University College and the specific requirements listed under the curricula of the several colleges and schools.

SECTION III—TRANSFER STUDENTS

1. *Honorable dismissal from the institutions previously attended.* An applicant for admission who for any reason is not eligible to return to the institution last attended cannot be considered for admission.
2. *An average of C or better.* The average grade for all work attempted at other institutions must be C or better (as computed by the University of Florida grade point system). An average grade of C or better is required for graduation from the University of Florida, and one who has not maintained this average before coming to the University need not apply.
3. A minimum of 64 semester hours accepted as transfer credit (only those courses completed at other institutions with grades of C or higher and are acceptable in the curriculum for which the applicant enrolls) not more than four of which are in Military Science or Physical Education.
4. *Specific course requirements for the professional school of the applicant's choice.* The courses listed as required for admission to the Upper Division under the various curricula or acceptable substitutes must be offered as advanced standing to qualify the student for admission to the Upper Division. An applicant lacking some of these requirements may be permitted to enroll in the Upper Division and complete them without reducing the credits required in the Upper Division for a degree. In some cases the student may be required to enroll in the University College until these requirements are met.
5. Undergraduate transfer students shall be required to make a satisfactory score on a general ability test.

SECTION IV—ADMISSION TO THE GRADUATE SCHOOL

APPLICATION FOR ADMISSION to the Graduate School must be made to the Director of Admissions on forms supplied by his office and at times stipulated in the *University Calendar.* Applications which meet minimum standards for admissions are referred by the Director to the graduate selection committees of the various colleges and divisions for approval or disapproval.

No application will be considered unless the complete official transcripts of all the applicant's undergraduate and graduate work are in the hands of the Registrar, and no transcript will be accepted as official unless it is received directly from the Registrar of the institution in which the work was done. Official supplementary transcripts are required, as soon as they are available, for any work completed after making application.

In general, no student who is a graduate of a nonaccredited institution will be considered for graduate study in any unit of the University.

UNDERGRADUATE RECORD.—Unqualified admission to the Graduate School is dependent upon the presentation of a baccalaureate degree from an accredited college or curriculum with an average grade of B for the junior and senior years. In some units of the Graduate School and on the more advanced levels of graduate study, an undergraduate average considerably above B may be required. In some units (see the following two paragraphs) admission may be considered with an undergraduate average slightly below B. College graduate admission selection committees take into account not only the general grade average, but the distribution of work and the quality and extent of preparation for the graduate program which the student proposes to undertake.

The minimum undergraduate grade average acceptable for admission to programs leading to the degrees of Master of Arts in Education, Master of Education, Master of Arts in Physical Education and Health, and Master of Physical Education and Health is 2.5, calculated on a basis of 4.0 as the highest possible average and covering the last two years of undergraduate work (at least 60 semester hours).

In the College of Agriculture, admission to graduate study is normally limited to those students who have maintained at least a 2.75 honor-point average in their upper-division work and 3.0 in their major subject. For students with an undergraduate major in general agriculture, the minimum upper-division average is 2.85. In exceptional cases, where a candidate has demonstrated in some other way his fitness to do graduate work, as, for instance, outstanding achievement since earning the bachelor's degree, he may be considered for admission.

GRADUATE RECORD EXAMINATION

A satisfactory average score on the Graduate Record Examination is required for admission. Each applicant for admission must submit scores on the aptitude test of the GRE, but either at the request of the department concerned or on his own volition, the applicant may submit in addition the score on one or more advanced subject-matter tests of the GRE. The scores on all tests taken will be weighed in regard to admission.

The GRE is given five times a year—in November, January, March, April, and July—at a great many locations in the United States, including Gainesville, Florida. To determine exact dates and the most convenient locations, students should write to the Educational Testing Service, Princeton, New Jersey. Applications are required several weeks ahead of the examination and scores are received about a month after the examination. Hence, it is necessary to apply for the GRE in early October for admission in February, in early March or April for admission to the summer session or in September. Since the GRE is required for many fellowships and awards for which early application is necessary, the undergraduate student is advised to take the examination no later than January for awards effective in June or September.

SECTION V—ADMISSION TO THE COLLEGE OF MEDICINE

Personal qualities of a high order—character, responsibility and maturity—are the primary requirements for admission. The student must have demonstrated superior intellectual achievement. A bachelor's degree is strongly recommended. The quality of the academic background, as well as the performance of the student in relation to the load attempted, will be weighed. A genuine interest in human welfare is important. Efficient methods of study and effective powers of reasoning are essential.

The College admits both men and women. A limited number of out-of-state students, in proportion to the number in the University as a whole, may be admitted. Applicants over the age of thirty rarely will be considered. No applications from persons over thirty-five will be accepted. Students who have failed academically or are ineligible to continue in another medical school will not be admitted.

Applications from students who are presently enrolled in another medical school will be considered provided (1) the student is eligible to continue in his present medical school, and (2) the school he is now attending is a member of the Association of American Medical Colleges. Applications will also be considered from students who have successfully completed work at an accredited two-year medical school.

Prospective applicants should take the Medical College Admissions Test by the spring preceding the submission of the application. A personal interview will be required for final acceptance.

Graduate students who are candidates for the Ph.D degree in medical sciences should apply through the Graduate School.

(See also more detailed description in the College of Medicine catalog.)

SECTION VI—ADMISSION TO THE COLLEGE OF LAW

Beginning Students: All applicants for admission to the College of Law must have received a 4-year baccalaureate degree from a college or university of approved standing and achieved a satisfactory score on the *Law School Admission Test.*

Beginning in September, 1961, the precise score required on the Law School Admission Test will be determined on the basis of the overall undergraduate collegiate average of the applicant (compiled on the basis of all work undertaken and computed by the system in effect at the University of Florida where the grade of A equals 4 grade points per semester hour; B equals 3 grade points per semester hour; C equals 2 grade points per semester hour; D equals 1 grade point per semester hour). The higher the overall undergraduate average of the applicant, the lower will be the test score required to qualify for admission;

provided, however, that no test score of less than 340 will be deemed sufficient to warrant admission regardless of the overall undergraduate collegiate grade average. An appropriate upward adjustment in the test score will be made in cases where the score submitted is the result of retaking the test.

For information on admission to the College of Law with advanced standing see the Bulletin of the College of Law.

SECTION VII—ADMISSION REQUIREMENTS FOR SPECIAL STUDENTS

Special students may be admitted to the various schools and colleges of the Upper Division only by approval of the Board of University Examiners. Each case will be considered on an individual basis. Application for admission as a special student must include: (1) records of previous educational experience (high school or college transcripts); (2) a statement as to the type of studies to be pursued; (3) a brief statement of the reason or reasons for selecting a special program other than a regular one; (4) satisfactory evidence of ability to pursue these studies—for example, a student to enroll as a special student for some technical courses and who feels qualified to do so by reason of employment or other experience should submit a brief description of this experience; (5) satisfactory scores on such ability or achievement tests as may be prescribed in individual cases by the Board of Examiners.

Expenses

GENERAL

Students should bring sufficient funds, other than personal checks, to meet their immediate needs. Personal checks will be accepted for the exact amount of fees. Other personal checks may be deposited with the University for collection.

Funds may be placed in a depository maintained by the University Cashier in Room 1, Tigert Hall. Depository accounts are assessed a fee of $1.00 per semester and $0.75 per summer session. Withdrawals may be made upon request and presentation of passbook. Any University fee or deposit may be paid from such an account.

Summary of Expenses for a School Year (two regular semesters)

	Conservative	*Typical*	*Liberal*
Fees*	$226.00	226.00	226.00
Books and Training Supplies**	50.00	100.00	140.00
Laundry and Cleaning	60.00	90.00	120.00
Room and Board	570.00	700.00	900.00
Incidental Expenses	150.00	200.00	300.00
	$1,056.00	$1,316.00	$1,686.00

*Two semesters for a Florida student not enrolled in the M.D. program of the College of Medicine.

**First year medical students will require $400 to $800 additional to purchase a microscope and instruments. Information on a loan plan for the purchase of such equipment is available at the Health Center Bookstore.

TUITION

For the purpose of assessing fees applicants are classified as Florida or non-Florida students.

Non-Florida students pay a nonresident tuition of $175 *per semester in addition* to the fees charged Florida students. In observing this regulation "applicant" shall mean a student applying for admission to the University of Florida if he is 21 years of age or older, or, if he is a minor, it shall mean parents, parent, or guardian of his or her person. Such applicant will pay the non-Florida tuition and other charges required of non-Florida students unless he shall be a citizen of the United States and shall have resided and had his habitation, domicile, home, and permanent abode in the state of Florida for at least 12 months immediately preceding his registration; provided, however, that the applicant cannot claim continuous residence in Florida by enrollment in any college or university in the State of Florida for the required period.

All students not able to qualify as Florida students are classified as non-Florida students.

The status of the classification of a student is determined at the time of his first registration in the University, and may not thereafter be changed by him unless, in the case of a minor, his parents move to and become legal residents of the State of Florida by maintaining such residence for twelve consecutive months. If the status of a student changes from a non-Florida student to a Florida student, his classification may be changed at the next registration thereafter.

REGISTRATION AND INSTRUCTIONAL FEES

The following fees are payable each semester at the time of registration. Registration is incomplete until all fees are paid. Summer Session fees are listed in a separate bulletin.

Fulltime students enrolled in all colleges and schools (except the M.D. program of the College of Medicine) (see below for M.D. program)	$113.00	$288.00

Part-time students enrolled for only one course (the course to carry no more than four semester hours) (such students are entitled neither to student activity nor infirmary privileges)	30.00	205.00
Students enrolled for thesis only (not to exceed four semester hours) (such students are entitled neither to student activity nor infirmary privileges)	30.00	205.00
State Forest Ranger School, all students	85.00	270.00
College of Medicine		
Students enrolled in the M.D. program:		
Registration	113.00	288.00
Instructional Fee	187.00	312.00
	$300.00	$600.00
Registration fees paid after the conclusion of the regular period are increased	$ 5.00	$ 5.00

This increase cannot be waived and is not refundable.

OTHER INSTRUCTIONAL FEES

Department of Music

Fees for applied music lessons, instrument rental and the rental of practice rooms are payable at the time of registration.

No refund will be made if lessons are missed. Arrangements may be made in the department office to make up lessons missed because of serious illness.

Applied Music Lesson Fee

One lesson per week, one-half hour each.....$30.00 per semester
Two lessons per week, one-half hour each..... 60.00 per semester

Practice Room Rental Fees

One hour per day.....$ 5.00 per semester
Two hours per day..... 10.00 per semester
Three hours per day..... 15.00 per semester

Instrument Rental

Brass, woodwind and string instruments owned by the University may be rented by students at a rate per instrument of..... 15.00 per semester

The registration fee of $113.00 per semester includes fees for matriculation, student health services, student activities, and a general building fee.

The registration fee of $85.00 paid by students at the State Forest Ranger School covers matriculation, hospital insurance, building fee, student activities, and transportation for field trips.

APPLICATION FEES

Each application for admission to the University must be accompanied by an application fee. For applications for admission to the College of Medicine, the fee is $10.00; for all other applications, $5.00. Application fees are non-refundable. Further instructions will be found in the Admissions section of this catalog and in the catalog of the College of Medicine.

SPECIAL FEES

Application Fee for Comprehensive Examination. A non-refundable fee of $1.00 is payable on the day of application for a comprehensive examination in one of the basic courses of the University College program. Applications are necessary only when the student is not currently registered in the course concerned. Forms and instructions may be secured from the Registrar. Fees are payable to the University Cashier.

Audit Fee. With the approval of the dean of the college administering the course and the written consent of the instructor, a course may be audited upon the payment of a fee of $30.00 per course. Auditor's permit forms may be obtained in the Office of the Registrar. Fees are payable to the University Cashier.

Graduate Record Examination. The Aptitude Test of the Graduate Record Examination is required for admission to the Graduate School. A fee of $7.00 covers the cost of this examination. Students who take one of the Advanced Tests of the Graduate Record Examination in combination with the Aptitude Test pay a fee of $12.00. These fees are payable to The Educational Testing Service, Princeton, New Jersey. For additional information see the Graduate School catalog.

College of Law Admission Test. A fee of $10.00 paid to The Educational Testing Service, Princeton, New Jersey, covers the cost of the Law School Admission Test. For details see the Bulletin of the College of Law.

Graduation Fee. Each candidate for a Bachelor's degree must make application for the degree in accordance with the date set forth in the University Calendar. The graduation fee of $10.00, payable at the time of application, covers the cost of the candidate's diploma and rental of cap and gown. If the candidate applies for two Bachelor's degrees at the same commencement, the fee will be $15.00. In the event that the applicant does not meet the requirements for graduation at the time specified in the original application for degree, he shall be charged a fee of $5.00 for each subsequent application for the same degree.

Each candidate for a graduate degree (Master's, Specialist's or Doctor's) must make application for the degree in accordance with the date set forth in the University Calendar and pay, at the time of application, a fee of $20.00. This fee covers the cost of the candidate's diploma, cap and gown rental, binding of thesis and printing cover and title page of thesis. The candidate will be given the hood representative of his degree. In the event that the applicant does not meet the requirements for graduation at the time specified in the original application he shall be charged a fee of $5.00 for each subsequent application for the same degree.

Transcript Fee. A student is furnished a first copy of his record free regardless of the amount of work completed). Subsequent copies are charged for at the rate of $1.00 each, except when the order is for more than one copy. There is a charge of $1.00 for the first copy and 50 cents for each additional copy on the same order. University transcripts may be obtained only from the Registrar's Office.

Library Fines. A fine of 5 cents a day is charged for each book in general circulation which is not returned within the limit of two weeks. "Reserve" books may be checked out overnight, but a fine of 25 cents is charged for each hour or part of an hour such a book is kept overdue. There is no maximum for fines and no partial remission of fines when books are returned.

DEPOSITS

Housing Reservation. Applications for space in the University Housing facilities must be accompanied by a reservation deposit of $10.00. See instructions in the Housing section of this catalog.

ROTC Deposit. A deposit of $20.00 is required at the time of registration of students enrolling in any course in Military Science and Tactics. The deposit will be refunded upon the return of all Government property in satisfactory condition.

Dissertation Deposit. A deposit of $50.00 is made to cover the publication cost of the dissertation. See the Bulletin of the Graduate School for time of payment and choice of method of publication, which involves the disposition of this deposit.

Breakage Books. A student may be required to purchase from the University Cashier a breakage book costing $3.00 or $5.00 for any course requiring locker and laboratory apparatus or special University equipment or supplies. A refund will be made to the purchaser on any undetached unused coupons after the apparatus has been checked in at the conclusion of the course.

College of Medicine Acceptance Deposit. A deposit of $50.00 must be forwarded to the Director of Admissions within two weeks of the receipt of notice of acceptance of admission. This deposit will be credited toward payment of course fees for the first semester to which the applicant is admitted. It cannot be credited toward a subsequent admission. It is refundable only until January 15 of the year in which that semester begins. For further information, see the Bulletin of the College of Medicine.

State Forest Ranger School Application Deposit. Each application for admission forwarded to the Superintendent, State Forest Ranger School, Lake City, Florida, must be

accompanied by a $20.00 deposit. This deposit is held as a security deposit for dormitory and instrument damage, and is refundable at the conclusion of the school year.

REFUND OF FEES

A refund of fees will be made under certain conditions upon presentation to the University Cashier of an authorization issued by the Registrar's Office.

A full refund of tuition, registration and instructional fees will be made if the student's registration is cancelled on or before the first day of classes in any semester or summer session.

A full refund of tuition, registration and instructional fees less a fixed charge of $5.00 in a regular semester or $3.00 in a summer session will be made if the student withdraws or if his registration is cancelled by the University after the first day of classes but on or before the final day of registration as shown in the University calendar.

A refund of fifty per cent of tuition, registration and instructional fees will be made if a student withdraws or if his registration is cancelled by the University after the conclusion of the registration period but on or before the day which marks the end of the third week of classes in a regular semester or the first week of classes in a summer session.

The College of Medicine Acceptance Deposit is deducted from any registration and course fees refunded to medical students.

No part of the student activity fee will be refunded if the student fails to surrender the identification card (and in the Fall Semester, the student activity card or receipt for student picture) at the time authorization for a refund is presented to the University Cashier.

Deductions from refunds will be made for unpaid accounts due the University.

PAST DUE STUDENT ACCOUNTS

All student accounts are due and payable at the office of the University Cashier at the time such charges are incurred.

A student who owes any money to the University of Florida, other than a non-delinquent loan account, shall not be permitted to re-register, to receive credit for work completed, or to receive a transcript of grades until satisfactory arrangements for the liquidation of his indebtedness have been made with the University Cashier.

Housing

GENERAL INFORMATION

Each student must make personal arrangements for his housing either by (1) applying to the Office of the Director of Housing for assignment to the University Housing Facilities or, (2) in the case of an upperclass man who wishes to do so, obtaining an accommodation in private housing or in his fraternity house. (See Private Rooming Houses and Fraternities and Sororities).

All inquiries concerning housing applications, deposits, or rent payments in University Housing Facilities should be addressed to the Director of Housing, University of Florida, Gainesville. Checks or money orders for room deposits or rent payments should be made payable to the University of Florida. Cash should NOT be sent through the mail.

An application for married housing may be filed at any time. An application for residence hall space may be filed at any time *after application for admission to the University*. Prospective students are urged to apply as early as possible, since initial fall term assignments are made during the spring and early summer.

A deposit payment of ten dollars must accompany the application for housing. Each applicant is given advance notice of assignment and deadline date for rent payment, if possible. Each applicant should read carefully the terms and conditions covering housing assignments as stated on the back of the application form and on the notification of assignment.

Roommate requests are honored wherever possible, provided the individuals wishing to room together submit their applications and pay room deposits at the same date, clearly indicate on their respective applications their desire to room together, and are within similar academic classifications. A large number of selected foreign students are assigned as roommates with American students who are interested in foreign languages, trade, and international relations. It is the University's policy to encourage American and foreign students to room together, and any student interested in the program should indicate this on his application.

RESIDENCE REGULATIONS

All freshman men (less than 28 hours of academic credit with the University of Florida Registrar) and all undergraduate women, with the exception of those whose residence is Gainesville or vicinity, are required to live in University Housing Facilities as long as space is available. Undergraduate women students, excepting freshmen, may live in sorority houses.

HOUSING ADMINISTRATION AND SERVICES

In each housing area there are carefully selected and trained full-time staff personnel known as Resident Counselors. These members of the Housing Staff are especially concerned with the educational potentials of group living. They are available to students with personal problems and questions regarding procedures, policies, and other aspects of campus life.

Carefully selected and specially trained upperclass students, known as Section Advisors and Resident Assistants, are assigned to the residence halls to lead in the organization of the residence group and to aid the other student residents in the solution of problems. Representatives are elected to student organizations in both men's and women's halls. These organizations sponsor programs and activities of general interest and benefit, and may establish regulations affecting life in the halls.

All facilities are equipped with basic furnishings of beds, mattresses, dressers, desks, and chairs. Residents are encouraged to obtain their own drapes, pictures, bedspreads, rugs, and lamps after arrival at the University.

Students assigned to University Residence Halls should not purchase or bring any basic linens. A basic linen service is furnished at a cost of $8.00 per student per semester and includes 2 sheets, 1 pillow case, and 3 towels per week. The charge will appear on the room assignment and is due and payable with the rent. At a nominal cost, blankets, pillows, desk lamps, and additional linens may be obtained on a rental basis at any time.

Heavy luggage may be sent a week or ten days in advance of the student's arrival, prepaid, addressed to the student's name and showing his assigned room number. Such shipments will be held until called for by the student. The University assumes no responsibility beyond the exercise of reasonable care for any shipment so received.

RESIDENCE HALLS FOR SINGLE STUDENTS

(All residence halls accommodate both freshmen and upperclass students.)

TOLBERT, NORTH, SOUTH, WEAVER, HUME, MALLORY, YULEE, REID, BROWARD AND RAWLINGS HALLS

These ten halls are of modern design and of brick, concrete, and steel construction. Hume, Tolbert, North, South, and Weaver are available for men. Rawlings, Mallory, Yulee, Reid and Broward are available for women. Features include: office-to-room intercommunication system; post-office boxes for each room in building lobbies; large lounge for each building; study lounges on each upper floor; large recreation rooms; cafeteria (Broward; Hume; Rawlings); laundry and other self-service facilities. Double and single rooms only, with the number of single rooms limited. Community bath facilities on each floor. Hot water heating system thermostatically controlled for each building. Rates (subject to change) per student per semester: for women's halls, range from $90.00 to $110.00; for men's halls, range from $60.00 to $110.00, with the majority at $90.00 or $100.00. It is anticipated that four new halls for men and one new hall for women will be completed by September 1961. Facilities and rent rates will be similar to those in Hume and Rawlings Halls.

BUCKMAN, THOMAS, SLEDD, FLETCHER, AND MURPHREE HALLS

These five halls of modern brick, concrete, and steel construction are available for men. Each hall is divided into separate sections with accommodations for from 30 to 60 students per section. Double-decker beds and extra equipment increase room capacities in relation to anticipated demand for space. All but a few rooms have lavatories, and there is a community bath on each floor in each section. There are lounges and laundry facilities in the area. Steam heat. Room types: two-room suites for two or three students, double rooms for two or three students, single rooms for two students, and a limited number of single rooms. Rates (subject to change) per student per semester: range from $60.00 to $105.00, with majority at $75.00 or $90.00.

GROVE HALL

This is a two-story hall of frame construction which is currently available for women. Community bath facilities on each floor in each wing; separate laundry and ironing space provided in small wing of building; lounge and office on first floor. Mostly single rooms, with a number of small doubles. Rates (subject to change): Vary from $55.00 to $76.50 per student per semester.

FRAME HALLS

These buildings, of one-story cemesto-board construction, are available for men. Community bath in each building, lavatory in each room. Hot air or hot water heating system. Rooms accommodate two students each. Rates (subject to change) are $49.50 per student per semester. Acceptance of assignment to Frame Halls obligates the student for on-campus housing for the Academic Year. On request, these students will be transferred to permanent buildings as space becomes available. Freshman men are not required to accept assignment to Frame Halls, but may choose to locate housing in the city if all permanent facilities have been assigned.

FACILITIES FOR MARRIED COUPLES ON-CAMPUS

Flavet Villages. Assignments are offered to married students. Currently there is a waiting period of about 6 months between the date of application and the date an assignment can be made. Flavet I contains 22 buildings of one-story, temporary construction, divided into 83 apartment units of one, two or three bedrooms. Flavet II, similar to Flavet I in construction, contains 20 buildings divided into 76 apartment units, of one, two or three bedrooms. Flavet III contains 52 buildings of two-story, temporary construction, divided into 428 apartment units of one or two bedrooms. All apartments are equipped with basic furniture requirements, but residents must furnish their own linens, rugs, kitchenware, etc. Cooking and heating are by gas, metered to the individual apartments. Electricity consumption in excess of the basic minimum is paid on a monthly basis on meter readings. Rent rates per month (including basic electricity) are: one-bedroom apartment, $26.75; two-bedroom apartment, $29.50; three-bedroom apartment, $32.25.

Application may be filed at any time and should be sent as soon as possible.

Corry and Schucht Memorial Villages. Assignments are offered to married students. These Villages contain modern two story buildings constructed of brick, concrete, and wood, divided into 296 one, two, and three bedroom apartment units. Three-bedroom apartments are available only in Corry Village. All apartments are equipped with basic furniture requirements for the living room, dinette, kitchen and one bedroom. Residents must furnish the extra bedrooms and their own linen, rugs, kitchenware, etc. Cooking and heating is done by gas, metered to the individual apartments. Electricity is paid on a monthly basis on meter readings. Water is paid at a flat rate of $1.50 per month. Rent rates per month (subject to change) are: one-bedroom apartment, $54.00; two-bedroom apartment $57.00; three-bedroom apartment, $60.00.

Applications may be filed at any time and should be sent as soon as possible. Currently there is a waiting period of about 10 months between the date of application and the date assignment can be made.

OFF-CAMPUS HOUSING

Private homes and privately operated rooming houses and apartments provide many accommodations for students.

Off-Campus listings are maintained in the Off-Campus Section but are not compiled for mailing since availability changes constantly and a mutually satisfactory rental arrangement can normally be made by the student *only* after personal inspection of facilities and conference with the householder. Students seeking off-campus housing should come to Gainesville well before the school period to confer with the Off-Campus Section about accommodations. Advance appointments for conferences may be made.

Arrangements for the September semester should be completed between the middle of June and the middle of August, for the February semester, during January, and for the Summer Session between the middle of April and the end of May.

Any freshman man student or single undergraduate woman student who wishes to live off-campus must obtain advance clearance in writing from the Housing Division. Each single, undergraduate woman student under 21 years of age, who may be authorized to live off-campus, must file with the Office of the Dean of Women a form signed by her parents or guardians giving their approval of her living at a specific address. Such blanks are available from the Office of the Dean of Women.

COOPERATIVE LIVING ORGANIZATION

The Cooperative Living Organization, incorporated in 1940, is operated by and for students with limited means for attending college. The Organization is located one block from the University campus, and has five residence buildings with a total capacity of over seventy members. The affairs of the Organization are administered by a Board of Directors, elected annually from the membership.

Among the qualifications for membership are scholastic ability and reference of good character. Application for membership should be made to the Vice President at 117 N.W. 15th Street, Gainesville.

GEORGIA SEAGLE COOPERATIVE

Georgia Seagle Cooperative, organized in September, 1946, is unique in that its main tenet is Christian fellowship in all phases of college life. It is organized on a non-profit basis, with each member being assessed his prorata share of actual operating cost, and is only successful through the active participation of all members in its program. Georgia Seagle Cooperative is non-sectarian and has most of the major religious denominations represented in its membership. The administrative powers of the organization are vested in its representative group, the Co-op Board.

Application for membership in this organization is made by personal interview early in May and early in December at the Georgia Seagle Hall, 1002 West University Avenue.

FRATERNITIES AND SORORITIES

Most national fraternal groups with chapters at the University maintain their own houses adjacent to or on the campus. Freshman women are not permitted to live in sorority houses. Special regulations apply to freshmen men living in their fraternity houses. University student regulations are in effect for all sorority and fraternity houses.

Student Life-Services, Facilities Activities, Regulations

OFFICE OF THE DEAN OF STUDENT AFFAIRS

The Dean of Student Affairs serves as a staff officer, advisory to the President, in all matters pertaining to the educational experiences of students outside of the classroom and to the general welfare of all students. He serves as a liaison between the office of the president and other administrative offices that deal with non-classroom activities of students and with the self government processes of student groups.

The Office of the Dean of Student Affairs works toward providing on the campus an academic climate that is favorable to the spirit of serious inquiry and is concerned with the maintenance of good communication and working relationships among students, faculty and administrative units as they labor together for the welfare of students.

OFFICE OF THE DEAN OF MEN

The Dean of Men is the counselor to men students. He and the Assistant Deans of Men are interested in the total life of the student, including his academic, financial, social, and recreational activities. In cooperation with the Dean of Women and the Student Organizations Office, his office serves as a clearing house for all non-classroom activities. The Dean of Men serves as an advisor to student self-government so that these activities may provide training in citizenship and leadership. He cooperates with the Director of Housing and works directly with the Resident Advisers in providing for the welfare of the men who reside in University living facilities.

OFFICE OF THE DEAN OF WOMEN

The Dean of Women has broad responsibility for the welfare of all women students but works also with men students in a variety of relationships. She and the Assistant Dean of Women counsel with students on personal, academic, financial and social problems, working cooperatively with, and referring to other departments, faculty, or agencies, where advisable.

In cooperation with the Director of Housing the Dean of Women acts in an administrative, supervisory and counseling capacity in relation to Residence Halls Staff and students. Women's fraternities are also a part of the responsibility of this office. The Dean of Women consults and cooperates with interested groups outside the University, such as parents, alumni, schools, civic organizations and clergy.

The Dean of Men and Women work cooperatively with Student Government and each with specific organizations.

OFFICE OF THE DIRECTOR OF HOUSING

The Director of Housing, in cooperation with the Deans of Men and Women, administers, supervises, and coordinates all programs and operations in the Residence Halls, the Apartment Villages, and an Off-Campus office. See section on "Housing" for details.

OFFICE OF THE ADVISER TO FOREIGN STUDENTS

The Adviser to Foreign Students is the coordinator of arrangements for all alien students at the University from the time of their first inquiries until they return to their home countries. His office cooperates with other University agencies in processing applications from foreign students for admission and financial aids. The office is primarily responsible for the reception and orientation of new students from abroad and cooperates with other officials and agencies of the University in providing necessary counseling for foreign students on academic, financial, language, social or other problems. The Adviser to Foreign Students is responsible for all of the University's relations with the U.S. Immigration Service and with other governmental and private agencies concerned with international student exchange. Assistance in an advisory capacity is provided for individuals and organizations interested in international understanding and intercultural exchange.

STUDENT FINANCIAL AID

The Student Financial Aid Office is a section of the Student Affairs Office and functions under the Senate Committee on Student Aid, Scholarships and Awards, of which the

Dean of Student Affairs is chairman. Working in close cooperation with the offices of the Dean of Men and the Dean of Women, student aid counselors interview students in all matters pertaining to student employment, scholarships and loans. This office serves as an important part of the academic and personal counselling and guidance of students. It attempts to weigh a student's financial and academic position in order to suggest a suitable balance between self-support, parental help and institutional loans and scholarships. All inquiries or applications for student financial aid and awards should be addressed to the Dean of Student Affairs. Explanatory materials, instructions or bulletins will be supplied upon request.

Scholarships and Grants-in-Aid are available to students who qualify. A *scholarship* is a monetary award given to an applicant on the basis of his high academic achievement, good character, and record of leadership. Financial need and service to the school may also be a consideration in granting a scholarship when higher grades might have been possible had it not been for the unusual circumstances. A *grant-in-aid* is a sum of money given to an applicant who has outstanding financial need and shows promise of being a successful student. In either case, the student's ability to profit from college training and his possible future contribution to society are determining considerations. Many awards are made by the University Committee, but others are selected directly by the donors and administered through the University. While most scholarships and grants-in-aid are in amounts equivalent to the University registration fees, there are others for considerably larger amounts. (Prospective students are also urged to consult the resources of their home communities. Many civic clubs and community organizations are interested in providing means whereby students may attend college when they are convinced the investment will be worth while.)

Student Employment is available to aid qualified students on a part-time basis while they are in school. Opportunities are limited; consequently the number of part-time jobs available does not approach the number of applicants seeking jobs. Every attempt is made to place students in work that utilizes their training and experience. Students are discouraged from seeking employment while attending school as Freshmen.

Loans available at the University of Florida may be divided into two classes: (1) the long-term loan (including the federal loan program) which allows the student to complete his college education and repay the loan after graduation in installments over a period of years; and (2) the short-term emergency loan which aims to meet the needs of unforeseen emergencies that arise in the financing of college expenses. As a rule, the short-term loans are for small amounts and are repayable within the semester in which they are received.

Prizes and Awards are made to students in recognition of exceptional achievement in various fields of student life at the University of Florida. In some instances, these are cash grants; in others, medals, certificates or keys.

UNIVERSITY PLACEMENT SERVICE

The University Placement Service is an agency designed to coordinate the placement activities of the departments, schools, and colleges on campus. This office cooperates directly with these University units in handling placement affairs and provides services which supplement their activities. Through its placement facilities, the University aids students in solving the problem of postgraduate employment and assists alumni in making suitable changes of employment.

The University Placement Service functions primarily as a clearing house, bringing together students, faculty members, and representatives of organizations that are seeking college trained personnel for permanent employment. Assistance is given students in preparing and making desired contacts for placement upon graduation by supplying job information, informing students of job opportunities, arranging interviews between employers and applicants, and helping the students gather and present their credentials to prospective employers.

Representatives from business, industry, and government are encouraged to visit the campus or write this office and take the opportunity to engage qualified University of Florida graduates.

FLORIDA UNION

The Florida Union is the official center of student activities. The provision of facilities, services, and a varied program of activities available to all persons of the University

"community" serves as the basic purpose of the Union. The Union is governed by a Board of Managers, consisting of eight students and six faculty members.

The Union is open daily from 7:00 a.m. to 11 p.m. Among the facilities and services offered are music listening rooms, craft and hobby shop, photographic dark rooms, browsing library, game room, public telephones, information desk, passenger and ride wanted bulletin boards, display cases, talent and band file, travel-study program consulting services, Western Union sending service, auditorium and meeting rooms for all University organizations. Air-conditioned guest rooms are available for official guests of the University, guests of students, faculty, staff, and alumni.

Offices for Student Government, Honor Court, Traffic Court, Florida Blue Key, Mortar Board, all student publications, and the Organizations Office are located in the Union building.

The Union Board for Student Activities, composed of students interested in planning student activities, is empowered by the Board of Managers to plan and promote all social, cultural, and recreational activities in the Union. This Board and its several committees are open to any student interested in participating. The committees are Dance, Films, Forums, Fine Arts, Hostess, International Suppers, Public Relations, Recreations and Special Projects.

Among the weekly activities sponsored by the Union Board and open to all students are bridge lessons and tournaments, dancing classes, coffee hours, current and cultural movies. Special activities such as receptions, dances, intracampus and intercollegiate bridge, billiard and bowling tournaments, art exhibits, music appreciation listening hours, forums and book reviews, outings to scenic spots in the state and abroad, fashion shows, international activities, picnics and special holiday parties are all a part of the Union program.

The University's Camp Wauburg, operated by the Florida Union, is a recreation area for the exclusive use of students, faculty, and staff of the University. This area, overlooking a beautiful lake, is located nine miles south of the campus. Facilities include a large picnic area, a recreation building, bath house, a dock with a diving board, many small outdoor fireplaces for cooking, and a playground area and equipment for volleyball, horseshoes, badminton, touch football, and softball. Other activities include swimming, boating, skiing, and fishing.

UNIVERSITY FOOD SERVICE

Food service is made available by the University at several campus locations. Students are offered high quality food at reasonable prices. Meals are carefully planned and attractively served. It is the policy of the University to provide well prepared food at the lowest possible cost. Coupon books containing tickets with a monetary value of $5.00 are available for the convenience of students.

STUDENT HEALTH SERVICES

A medical history report form is furnished by the Registrar's office to prospective students. One side of this form is to be completed by the student, giving medical history, the other side by a licensed Doctor of Medicine. This form should be mailed by the examining physician, in the envelope provided, to the Director, Student Health Department, University of Florida, Gainesville, Florida, not less than two weeks before entrance to the University and much earlier if possible. This report is reviewed by an Infirmary physician before the applicant is cleared for registration and the type of physical education program is determined for all freshmen and sophomore students on the basis of this examination. Applicants with chronic illnesses or physical defects should have their family physician give full history of chronic condition or physical defect, either in a letter or on the Medical History report in order that proper evaluation and treatment may be determined. Students are not prevented from entering the University because of physical defects; however, where a student has a history of mental illness, an interview with the University psychiatrist may be required before acceptance for registration.

The Student Health Department strives to prevent the entry and spread of communicable diseases at the University. STUDENTS MUST HAVE BEEN SUCCESSFULLY VACCINATED AGAINST SMALLPOX WITHIN FIVE YEARS. NO EXCEPTION IS MADE TO THIS RULING. THIS IMMUNIZATION SHOULD BE ACCOMPLISHED PRIOR TO ENTERING THE UNIVERSITY. Immunization for poliomyelitis and tetanus is strongly recommended.

The Student Health Department maintains a 65 bed hospital, providing 24 hours general nursing care for all students currently enrolled in the University who have paid the student health fee. The Outpatient Clinic is open from 8:00 a.m. to 12:00 midnight; after midnight a call bell is provided at the entrance to summons a nurse. A physician is on 24 hour call for care of emergencies too severe to be cared for by the nursing staff. Students are urged to report to the Infirmary at the first sign of illness. In any case where the illness is determined by the physician to be of more than average severity, parents will be notified by telephone.

The Student Health Department is staffed with six physicians, a radiologist, a psychiatrist, twenty registered nurses, x-ray department, clinical laboratory and pharmacy. It is designed to give as complete a diagnostic, treatment and public health program as possible within the limits of its personnel and equipment. It is intended for treating the illnesses which commonly occur while the student is in residence at the University. In the case where major surgery is required, the student will be referred to a competent surgeon either at the J. Hillis Miller Health Center on campus or the Alachua General Hospital in Gainesville, both of which are approved for surgery by the American College of Surgeons and cooperate fully with the Student Health Department. Families of students enrolled are not eligible for Student Health Department facilities, but Infirmary physicians will gladly recommend well qualified local physicians to attend their families.

Most of the service and facilities of the Student Health Department are available to students without charge; however, there is a charge of $2.20 per day for students admitted as inpatients. A very nominal charge is also made for x-ray service, as well as special prescriptions.

An excellent group insurance program, sponsored by the Student Government and highly recommended by the Student Health Service, is available to students at a very reasonable cost.

The University is not responsible for medical care of students during vacation but in certain instances it may make special arrangements to continued care of students who are hospitalized before the vacation period begins.

During epidemics, the facilities of the Student Health Department may be so overtaxed that the care of all ill students at the Infirmary will be impossible. In such an emergency, every effort will be made to provide for the care of students outside the Infirmary. However, the responsibility of payment for services to outside physicians or hospitals must be assumed by the student.

STUDENT ACTIVITIES

ORGANIZATIONS AND PUBLICATIONS

Student Government.—Student government in the University of Florida is a cooperative organization based on mutual confidence between the student body and the faculty. Considerable authority has been granted the Student Body for the regulation and conduct of student affairs. The criterion in granting authority to the Student Body has been the disposition of the students to accept responsibility commensurate with the authority granted them. Generally speaking, the fields of student activity include regulation of extra-curricular affairs and the administration of the Honor System.

Every enrolled student, having paid his activity fee, is a member of the Student Body and has equal vote in its government.

The University authorities feel that training in acceptance of responsibility for the conduct of student affairs at the University is a valuable part of the educational growth of the individual student. The Student Body is practically a body politic, occupying its franchise under grant from the Board of Control and subject to its continued approval.

Student government is patterned on the state and national form of government, but adapted to the local needs of the Student Body. Powers are distributed into the three branches: (1) legislative, which is embodied in the Executive Council; (2) judicial, which is embodied in the Honor Court with penal and civil jurisdiction of all judicial matters; (3) executive, embodied in the President and shared with the Vice-President and the Secretary-Treasurer of the Student Body. Members of all three branches are elected directly by the Student Body.

Women Students' Association.—The Women Students' Association of the University is a subsidiary of the student body. Its purposes are:

1. To promote the welfare of women students in cooperation with the administration, the student body, and the Dean of Women.
2. To deepen the sense of individual and collective responsibility.
3. To promote loyalty to all college activities and organizations and to uphold high social and academic standards among University women students.

Every undergraduate woman student upon registration in this University automatically becomes a member of the Women Students' Association of the University of Florida.

The business of the association is conducted by a council composed of an executive committee consisting of the officers, one representative from the freshman, sophomore, junior, and senior Classes respectively; the Secretary of Womens' Affairs and representatives elected from Alpha Lamba Delta, Residence Halls, Panhellenic, Women's Glee Club, Women's Intramural Board and other women's organizations as they are admitted to the campus and passed on by the executive committee. There are also elected representatives from Off-Campus students. Voting in these elections is limited to undergraduate women students.

Presidents' Council.—The Presidents' Council is a subsidiary organization of student government and was made a part of the organized set-up of the campus during the session of 1949-50. Under the leadership of the student body president in 1953-54, its program of activities was enlarged to include the various areas of men's student affairs on the campus.

The purpose of the Presidents' Council as set up in the constitution is "to concern itself with needs, interests, and welfare of men students at the University of Florida; to act in an advisory and consulting capacity to student government and other organized activities in which men students participate; to work with the Dean of Men's office and other administrative officials in maintaining of the school in the interest of building a greater University."

Representatives of the council are selected each year from the men's dormitories, fraternities, and those students living off-campus in rooming houses and in the Flavet Villages.

DEBATING.—Practice in debating is open to all students through the programs of the varsity and University College debate squads. This work, which is sponsored by the Debate Club, is under the direction of the Department of Speech, and culminates in an extensive schedule of intercollegiate debates.

DRAMATICS.—Any student has an opportunity to participate in several plays which are presented each year by the *Florida Players,* a dramatic group under the direction of the Department of Speech.

EXECUTIVE COUNCIL.—The Executive Council is composed of representatives elected from the colleges on the campus and in general acts as administrator of Student Body affairs. The Athletic Council and the Lyceum Council have jurisdiction over their respective fields.

PUBLICATIONS.—The Student body publishes *The Seminole*, the year book; *The Florida Alligator,* the student newspaper; *The "F" Book*, the student's guide; and *The Orange Peel*, the campus literary magazine.

RELIGIOUS ACTIVITIES.—A broad program of inter-denominational religious activities is sponsored on the campus by the University Religious Association. Composed of representatives of all denominational student religious groups and of the student body at large, the Association brings outstanding lecturers in the field of religion to the University, holds group discussions and seminars, and enlists students in a program of service to the University and the state. A faculty committee on religion, appointed by the President of the University, assists the University Religious Association in its program and work.

Denominational centers adjacent to the campus and full-time student pastors are provided by the following religious groups: Baptist, Episcopal, Jewish, Methodist, Presbyterian, and Roman Catholic. Other denominations, most of which have churches in Gainesville, offer special student programs and services through the local groups.

SOCIAL FRATERNITIES

Twenty-six national social fraternities have established chapters at the University; most of them have already built chapter houses and others have leased homes. The general work of the fraternities is controlled by the Interfraternity Council, composed of one

delegate from each of the national fraternities. The national fraternities at Florida are Alpha Epsilon Pi Alpha Gamma Rho, Alpha Tau Omega, Beta Theta Pi, Chi Phi, Delta Chi, Delta Sigma Phi, Delta Tau Delta, Delta Upsilon, Kappa Alpha, Kappa Sigma, Lambda Chi Alpha, Phi Delta Theta, Phi Gamma Delta, Phi Epsilon Pi, Phi Kappa Tau, Pi Kappa Alpha, Pi Kappa Phi, Pi Lambda Phi, Sigma Alpha Epsilon, Sigma Chi, Sigma Nu, Sigma Phi Epsilon, Tau Epsilon Phi, Tau Kappa Epsilon, and Theta Chi.

Twelve national women's social fraternities have established chapters at the University. The twelve chapters are Alpha Chi Omega, Alpha Delta Pi, Alpha Epsilon Phi, Alpha Omicron Pi, Chi Omega, Delta Delta Delta, Delta Gamma, Delta Phi Epsilon, Kappa Delta, Phi Mu, Sigma Kappa, and Zeta Tau Alpha.

PROFESSIONAL AND HONORARY FRATERNITIES

Alpha Chi Sigma, chemistry; Alpha Delta Sigma, men in advertising; Alpha Epsilon Delta, premedical; Alpha Epsilon Rho, broadcasting; Alpha Kappa Delta, sociology; Alpha Kappa Psi, business; Alpha Lambda Delta, women's freshman scholastic; Alpha Phi Omega, service; Alpha Tau Alpha, agricultural education; Alpha Zeta, agriculture; Arnold Air Society, military; Beta Alpha Psi, accounting; Beta Gamma Sigma, commerce; Block and Bridle, animal husbandry; Delta Pi Epsilon, graduate business education; Delta Sigma Pi, business; Delta Theta Phi, law; Florida Blue Key, men's leadership; Gamma Sigma Delta, agriculture; Gamma Sigma Epsilon, chemistry; Gargoyle, architecture and allied arts; Kappa Delta Pi, education; Kappa Epsilon, pharmacy; Kappa Psi, professional pharmacy; Kappa Kappa Psi, band; Kappa Tau Alpha, honorary journalism; Mortar Board, national women's leadership; Mortar and Pestle, pharmacy; Nu Rho Psi, psychology; Order of the Coif, law; Phi Alpha Delta, law; Phi Alpha Theta, history; Phi Beta Kappa, scholarship; Phi Chi Theta, women's business; Phi Delta Delta, women's legal; Phi Delta Kappa, education; Phi Delta Phi, law; Phi Eta Sigma, men's freshman scholastic; Phi Kappa Phi, scholarship; Phi Mu Alpha, music; Phi Sigma, biology; Pi Lambda Theta, education; Pi Mu, premedical; Pi Sigma Alpha, political science; Pi Sigma Epsilon, professional sales; Propeller Club of the U. S., business; Rho Chi, pharmacy; Rho Epsilon, real estate; Rho Pi Phi, pharmacy; Scabbard and Blade, military; Sigma Alpha Eta, speech and hearing; Sigma Delta Chi, men in journalism; Sigma Delta Psi, athletics; Sigma Lambda Chi, building construction; Sigma Tau, engineering; Sigma Pi Sigma, physics; Sigma Xi, scientific; Tau Beta Pi, engineering; Tau Beta Sigma, band (women); Tau Kappa Alpha, debating; Theta Sigma Phi, women in journalism; Xi Sigma Pi, forestry; Zeta Phi Eta, speech (women).

CLUBS AND SOCIETIES

There are more than one hundred and fifty student clubs and organizations on the campus representing varied interests and activities. These include academic interest clubs, dance and social organizations, hobby groups, publications, religious groups and others.

HONOR SYSTEM

THE HONOR SYSTEM.—One of the finest tributes to the character of the students at the University of Florida is the fact that the Student Body is a self-governing group. The details of the system by which this result is reached are explained to all freshmen during the first week of their enrollment in the University. However, each parent, as well as each prospective student, is urged to read the following discussion of the Honor System, as this phase of student government forms the keystone of the entire system.

In addition to permitting student legislation on questions of interest to the members of the Student Body, execution of the laws passed, and the expenditure of student funds, the governing system at the University gives to the students the privilege of disciplining themselves through the Honor System. Inaugurated by some of our greatest educators in higher institutions of the nation and early adopted in some departments of the University of Florida, the Honor System was finally established in the entire University in 1914 as the result of student initiative. This plan, having met with the approval of all officials of the University, was given the sanction of the Board of Control, and student representatives were selected by the students to administer the system.

Among the basic principles of an Honor System are the convictions that self-discipline is the greatest builder of character, that responsibility is a prerequisite of self-respect, and

that these are essential to the highest type of education. Officials of the University and the Board of Control feel that students in the University of Florida should be assumed to be honest and worthy of trust, and they display this confidence by means of an Honor System.

The success of the system is dependent upon the honor of each individual member of the student body in that: (1) he is duty-bound to abide by the principles of the Honor Code, and (2) he is further pledged to report to the Honor Court such violations of the Code as he may observe.

Many men and women coming to the University for the first time feel hesitant about assuming this responsibility, inasmuch as early school training has created feelings of antipathy toward one who "tattle-tales" on a fellow-student. The theory of an Honor System adequately overcomes this natural reaction, however, when it is realized that this system is a student institution itself, and not a faculty measure for student discipline, and that to be worthy of the advantages of the Honor System each sudent must be strong enough to do his duty in this regard. In this way the responsibility for each student's conduct is placed where it must eventually rest—on himself.

The Honor Code of the Student Body is striking in its simplicity; yet it embodies the fundamentals of sound character. Each student is pledged to refrain from:

(a) cheating, (b) stealing, (c) obtaining money or credit for worthless checks.

On the basis of this Code, students are extended all privileges conceived to be the basic right of students of Honor. There are no proctors in the examination rooms, each student feeling free to do his work, or to leave the room as occasion arises. Secondly, fruits and supplies are placed openly on the campus, with the confidence that each student will pay for any he may take. This system makes each student the keeper of his own conscience until he has proved to his fellow-students that he no longer deserves the trust placed in him.

A breach of the System may be flagrant and serious, or it may be extenuated by circumstances. It may need only mild corrective measures to help the violator obtain a finer conception of right and wrong; it may need strong measures. To enforce the System equitably the students have established the Honor Court. The Court is composed of thirteen justices, a chancellor and a clerk. The justices are elected each year from the various classes and colleges on the campus, the chancellor and the clerk being elected from the student body at large. Any student convicted by this Court has the right of appeal from its rulings to the Faculty Discipline Committee. A tribute to the efficiency of the Honor Court in its existence on the Florida Campus is realized in the fact that, since its establishment, a surprisingly insignificant number of the Court's decisions have been altered upon appeal.

The penal purpose of the Honor Court should receive less stress, perhaps, than its educational purpose, which is its most important function. The responsibility of acquainting every member of the Student Body with the purpose, advantages, and principles of the Honor System is placed upon members of the Court. In line with this work, members of the Honor Court participate in the orientation program each year during Orientation Week. In addition to a series of explanatory talks at that time, special programs are conducted by the Honor Court during the school year. Honor System talks are delivered in the high schools of the State upon request and at regularly scheduled times each spring, and radio programs are broadcast especially for the high schools from Station WRUF in Gainesville. In this way the Honor Court has endeavored to fulfill its responsibility to the students who undertake the problem of self-government and self-discipline at the University of Florida.

The parent of every prospective student should feel that it is his responsibility to stress the paramount importance of honorable conduct on the part of his son or daughter while in attendance at the University of Florida. Dishonest action brings sorrow both to parent and to student.

Because University students have proved worthy of the trust and responsibility involved in administering an Honor System, this feature of student government has become the greatest tradition at the University of Florida. It must be remembered that inasmuch as it is primarily a student responsibility, the future of the system rests with each new class of students entering the University.

The University faculty and administration pledge their support to the Honor System. Each student must support it or in failing to support it, contribute to the loss not only of a cherished tradition but the right of self-government. We at the University of Florida are fully cognizant that by fostering and supporting the ideals of self-government as re-

flected in student government, the support of American Democracy will be more thoroughly imbedded in the hearts of tomorrow's leaders.

INTERCOLLEGIATE ATHLETICS

The University of Florida Intercollegiate Athletic Program is among the best in the South and compares favorably with the programs of leading institutions throughout the nation. As a member of the National Collegiate Athletic Association and the Southeastern Athletic Conference, the University guides its intercollegiate program by the policies and regulations of those organizations. Major sports are football, basketball, baseball, swimming, and track. Minor sports are golf, tennis, cross country.

Physical facilities for intercollegiate athletics comprise Florida Field Stadium seating approximately 45,000 spectators, a completely equipped varsity tennis stadium, two baseball diamonds, swimming pool, and two running tracks. In addition, large practice areas are available. The Florida Gymnasium of the College of Physical Education and Health provides spacious dressing and training quarters. Basketball facilities include four practice courts and the 7,000 capacity indoor stadium.

INTRAMURAL ATHLETICS AND RECREATION

Development of wholesome competitive spirit through enjoyable participation in physical activities is an essential aspect of a well-rounded college education. A successful intramural program depends primarily upon student interest in planning and executing the program as well as in actual participation in the various contests and recreational activities.

Widespread student participation in intramural sports and recreation is a tradition of long standing at the University of Florida. The extensive offering of activities provides every student an opportunity to take part as an individual or as a member of a group in sports of a competitive nature.

The student Intramural Boards conduct the details of an Intramural program comprising twenty sports ranging from such individual and dual activities as archery, tennis, and golf to such teamsports as volleyball, basketball, and softball. There are four leagues of competition included in the program: (1) Sorority; (2) Fraternity; (3) Dormitory-Independent; (4) Off-Campus.

The department of Intramural Athletics and Recreation maintains a Recreational Sports Service which provides other leisure time activities for students and faculty. This service also provides complete information and guidance for sports club activities. Where there is sufficient interest, additional sports clubs are formed and individuals with special ability in those areas are encouraged to act as leaders.

Equipment is furnished for all activities and is made available to any regularly enrolled student of the University of Florida upon request.

Every student at the University of Florida is urged to participate in Intramural activities as interest and time permits.

Student Regulations

For full information relative to graduation, failure in studies, conduct, social activities, etc., the student should consult the *Bulletin of Student Regulations* and the sections of the Catalog containing regulations of the separate Colleges and Schools. Each student is held responsible for observance of the rules and regulations of the University insofar as they affect him. Some regulations and interpretations supplementing the *Bulletin of Student Regulations* are given here.

CREDITS

The term credit as used in this bulletin in reference to courses is equal to one semester hour.

DEGREES AND GRADUATION

The Board of Control will confer the degree appropriate to the course pursued under the following conditions:

1. *Curriculum requirements.*—Certification by the Registrar and the Dean of the college concerned that all requirements of the course of study as outlined in the college announcement, or its equivalent as determined by the faculty of the college offering the course, have been completed.
2. *Recommendation of the faculty of the college awarding the degree.*
3. *Residence requirements.*—(a) The minimum residence requirement for the baccalaureate degree (except the Bachelor of Laws degree) is two semesters, or one semester and three six-week summer terms, or one semester and two eight-week summer terms, or one semester and two nine-week summer terms, or five six-week summer terms, or four eight-week summer terms, or four nine-week summer terms. (b) For the Bachelor of Laws degree ninety weeks of study in an accredited law school, of which at least sixty-two must be in the College of Law at this University. (c) Students are required to complete the last thirty credit hours (fifty-five in the College of Law) applied toward the baccalaureate degree during regular residence in the college from which the student is to be graduated. Exception to this regulation may be made only upon written petition approved by the faculty of the college concerned, but in no case may the amount of extension work permitted exceed more than twelve of the thirty-six hours required for a baccalaureate degree. (d) For residence requirements for the various graduate degrees see the Graduate School section of the Catalog.
4. *Attendance at commencement.*—All candidates for degrees are required to be present at commencement exercises (Baccalaureate Sermon and Commencement Convocation). A student who fails to attend shall not have his degree conferred until he makes another application and complies with this requirement. This requirement is waived rarely. In general, illness of the candidate or similar emergency will be considered the only satisfactory reason for waiver. Application for waiver must be made through the dean of the college concerned to the President.
5. *Average required.*—In order to secure a degree, a student must have a "C" average to better in all credits required in the Upper Division toward that degree.
6. *Two degrees.*—Two degrees of the same rank, e.g., A.B. and B.S. will not be conferred upon the same individual unless the second degree represents at least thirty semester hours of additional work, with the necessary qualitative and residence requirements.
7. *Continuous attendance.*—If a student's attendance is continuous, he will be permitted to be graduated according to the curriculum under which he entered, if the courses required are offered by the University. If some or all of the required courses are no longer offered, the faculty of the college concerned will make such adjustments for the individual student as is appropriate for the curriculum involved. As long as a student attends the University as much as one semester, or one summer term during any year, his residence is continuous.
8. *Application for degrees.*—Students who expect to be graduated must file application for the degree or diploma in the Registrar's Office on or before the time

indicated in the current University Calendar. Students must make application in the term in which they expect to be graduated, regardless of previous applications made.

9. *Time limit.*—To receive a degree a candidate must have completed: (a) all residence work required for graduation at least 24 hours prior to the scheduled meeting of the College Faculty voting on the candidates for degrees; (6) all extension work at least two weeks prior to the scheduled meeting of the College Faculty voting on the candidates for degrees.

10. *Extension work permitted.*—(Note: Extension work as used below refers to both extension classes and correspondence study).

a. Students will not be permitted to take more than twelve semester hours of extension work during any academic year.

b. Students will not be permitted to take more than nine semester hours of extension work during the summer vacation period.

c. The amount of extension work for which students will be allowed credit toward a degree at the University shall not exceed one-fourth of the amount required for the degree. For additional regulations peculiar to the various colleges see the catalog or consult the dean of the college concerned.

d. Students will not be permitted to take by extension work more than twelve of the last thirty-six semester hours necessary for a baccalaureate degree.

e. Simultaneous registration in residence and extension work is permitted only upon approval of the dean of the college in which the student is registered and the Registrar.

11. *Registration of Graduate Students.*—Normally students in the Graduate School must be registered in the University at the time they receive a degree. In the event that a student has completed at the time of registration for the term in which the degree is to be awarded all requirements for a degree including courses, residence, thesis or dissertation, and all examinations for the degree, the Graduate Council will entertain a petition to waive this requirement. In other words, the student must be registered for the term in which the final examination is given.

MAXIMUM AND MINIMUM LOAD

Some colleges have a maximum load regulation which is stated in the Catalog. In the absence of such statement the general University regulation is followed. This regulation allows in a regular semester a maximum load of 17 hours for an average below "C" made during preceding term of attendance and 21 hours for an average "C" during the preceding term of attendance. The minimum load in a regular semester is 12 hours.

Correspondence or extension work, if the student is registered for such courses, is counted in computing the maximum load; but it cannot be counted to achieve the minimum load.

At the time of registration, a student, with the approval of his dean, may register for less than the minimum load. After the regular registration period has closed, no student will be permitted to continue with less than the minimum load unless he successfully petitions the Committee on Student Petitions.

The maximum load for a full summer term is nine hours; the minimum load is three hours.

GRADES

Results of students' work are recorded in the Registrar's Office as follows:

1. Undergraduate students: Passing grades are A, B, C, D, in order of excellence. Failing grades are E—Failure, I—Incomplete, X—Absent from examination.

Grades of I and X are considered as failing grades and they must be changed to passing grades in accordance with the dates set in the University Calendar, or be considered as grades of E in considering a student's record for graduation or in calculating averages. Ew—Dropped for non-attendance or unsatisfactory work. Students registered in the University College in courses for which the Board of University Examiners gives comprehensive examinations may receive the grade of H (which is neither passing nor failing), if the student files with the Board a request in writing to defer the examination.

This request must be filed before the scheduled time for the examination concerned. An undergraduate who re-registers for a course in which he has received a grade of I or X will automatically have the original grade changed to E.

2. Graduate students: Passing grades for graduate students in courses numbered below 600 are A and B. Passing grades for courses numbered 600 and above are A, B, C; however, C grades in courses numbered 600 and above count toward a graduate degree only if an equal number of credit hours in courses numbered 600 and above are earned with a grade of A.

AVERAGES

1. Definition: The term, average, as used in any University regulations concerning probation or suspension, always refers to average on work attempted at the University of Florida. Grades received at other institutions are not averaged with grades received at the University of Florida for the purpose of meeting any average requirement which is a part of probation or suspension regulations. Most honorary societies take into consideration the quality of the work done at other institutions in meeting any average requirement they may have.

2. How computed: Averages are determined by computing the ratio of honor points to semester hours recorded as attempted. The student receives honor points according to the following scale: A equals 4 honor points per semester hour; B equals 3 honor points per semester hour; C equals 2 honor points per semester hour; D equals 1 honor point per semester hour; E equals 0 honor point per semester hour; Ew equals 0 honor point per semester hour; H equals 0 honor point per semester hour; I equals 0 honor point per semester hour; X equals 0 honor point per semester hour. In computing averages, a course repeated is counted as many times as grades for it are recorded.

COMPREHENSIVE EXAMINATIONS

The comprehensive course examinations (of which the student must successfully pass six or more to complete the program of the University College) are administered by the Board of University Examiners and are given in January, May, and August of each year. A student must be familiar with the work of the various courses and be able to think in the several fields in a comprehensive way in order to pass these examinations. Standings on the comprehensive examinations are issued by the Board of Examiners and are not subject to change by any other agency.

APPLICATIONS FOR COMPREHENSIVE EXAMINATIONS

University College students who are enrolled in a course at the time the examination is given need not make application for it. University College students who are not enrolled in a course at the time an examination is given, and who wish to take the comprehensive examination, must apply in writing to the Board of Examiners for permission prior to the last date set for filing such applications. Applications will not be accepted from students registered in the colleges of the Upper Division. Before the application is accepted the applicant will be required to furnish the Board of Examiners with proof that this privilege has not been used to avoid the payment of usual University fees. Applications will be accepted only for those examinations which are administered by the Board of Examiners. The Board of Examiners is the only agency authorized to give University College students examinations by application.

As a general policy the Board of Examiners will not approve applications for comprehensive examinations if any of the following conditions prevail:

1. The student has been dropped from the course for excessive absences or unsatisfactory work.
2. The student has previously taken the examination in the course.
3. The student has completed other courses in the same general field (e.g., the student who has had courses in history, economics, etc., will not have an application for the comprehensive course in the social sciences (C-11 or C-12) approved).

PROBATION, SUSPENSION, AND EXCLUSION FOR ACADEMIC REASONS

The University of Florida accepts the responsibility of providing the best possible higher education in an economical and efficient manner. In order to discharge this respon-

sibility, the University must require reasonable academic progress from its students in return for the opportunity afforded them by a tax supported University. To continue the registration of students who have demonstrated that they do not possess the necessary ability, or preparation, or industry, or maturity to obtain a reasonable benefit from a program of University study is inconsistent with this responsibility.

The University of Florida Senate has enacted the following University regulations covering probation, suspension and exclusion for academic reasons. The minimum grade point averages given below have been arrived at by the analysis of hundreds of records of University students. These studies show that if the student is to have a reasonable chance of satisfactory completion of the University program, his achievement record, as indicated by his grade point average, cannot consistently fall below the averages required to avoid probation for academic reasons. Any college of the University may enforce additional academic standards and each student is responsible to his college for observing the regulations relating to such additional standards.

Functions of the minimum grade point standards are (1) to identify students in academic difficulty in time to permit effective counseling, and (2) to remove from the University those students who would not meet the University of Florida grade point requirements for graduation if allowed to remain enrolled in the University.

These functions are performed through the imposition of academic probation, through suspension from the University, through exclusion from the University and through application of admission requirements by Upper Division Colleges.

It is important to note that a student may be placed on various kinds of probation. For example, he may be admitted to the University on a probationary basis or he may be placed on disciplinary probation by reason of misconduct or, in some cases, he may be placed on probation by the Committee on Student Petitions. The term admission probation is used when the student is admitted after attendance at some other institution with an achievement record at the other institution which does not meet the minimum standards of the University of Florida. Disciplinary probation is the term used when a student is placed on probation by reason of misconduct. Academic probation is a term used to indicate a specific probation which results from an action of the Committee on Student Petitions. In cases such as the foregoing, the individual student will receive in writing a specific set of conditions which he must meet in order to remove the probation. In most cases, these conditions will require loads, grades, et cetera, that are above the minimums given below. Inasmuch as such a student will have been placed on one of these specific probations only because of some previous academic difficulty or misconduct, in his particular case the specific terms of probations which are set for him become the necessary minimum achievement rather than the conditions set forth below. When the student is placed on probation as a result of failure to meet minimum grade point averages described below or by reason of withdrawal, the term scholarship probation is used.

These different terms are for identification of category only, and do not imply varying degrees of unsatisfactory academic achievement.

To give a brief summary, the general objective of the probation and suspension rules might be stated as follows: A student cannot continue at the University of Florida if there are two successive semesters of unsatisfactory academic achievement. It is therefore most important to the student to seriously review his record and educational objectives with the appropriate counselors immediately after his first unsatisfactory semester which has resulted in his being placed on probation.

PROBATION BECAUSE OF UNSATISFACTORY ACADEMIC ACHIEVEMENT

The purpose of academic probation is to recognize formally the fact that a student is making unsatisfactory progress thereby providing occasion for counsel.

The conditions of academic probation are intended to: (1) Relate to quality of achievement below standards required for ultimate graduation; (2) Recognize unsatisfactory work at an early date; (3) Be sufficiently significant to make clear to the student, his parents, and the administration, the shortcomings of the student's performance; (4) Provide occasion for counseling; (5) Give students whose ultimate success is doubtful further opportunity to demonstrate adequate performance.

LOWER DIVISION STUDENTS:

1. A Lower Division student who fails to maintain a 1.5 grade point average for all work attempted in any semester at the University of Florida while classified as a lower division student will be placed on scholarship probation for his next semester.

2. A Lower Division student who is on scholarship probation shall be ineligible for further registration at the University of Florida unless he achieves a grade point average of 1.7 or over for all work attempted for the semester in which he was on scholarship probation.

3. A student who after completing four semesters of college work has failed to gain admission to an Upper Division college and who has failed to earn a "C" average on all college work completed shall be ineligible for further registration in the University unless (1) he is recommended for continuation by the Upper Division college, or (2) in the event that he has not chosen an Upper Division college, he is recommended for continuation by the Appeals Committee of the University College.*

4. A Lower Division student who has attempted six semesters of work in the Lower Division shall be ineligible for further registration in the University unless he has been admitted to an Upper Division college.

5. A Lower Division student who withdraws from the University after the date specified in the University Calendar (end of the first six weeks of the semester, first three weeks of an eight-weeks summer term) will be placed on scholarship probation unless he has achieved a cumulative grade point average of 2.0 or higher for all work attempted at the University of Florida.

A semester during which a student withdraws after the last date for dropping courses without a failing grade and any semester in which a student is suspended for non-academic or unsatisfactory work shall be considered as a semester attempted in administering these regulations (Sections 1 through 5 above).

UPPER DIVISION STUDENTS:

6. Any Upper Division student who fails to maintain a 2.0 grade point average for all work attempted in any semester shall be placed on academic probation for his next semester.

SUSPENSION AND EXCLUSION

The purpose of suspension from the University for academic reasons is to remove from the University those students who would not ultimately meet requirements for graduation if they continue at their current leve' of progress.

The conditions of academic suspension are intended to: (1) Select students whose performance indicates that they will not fulfill the requirements for graduation; (2) Encourage students to leave the University as soon as a high probability of failure is evident.

The purpose of exclusion from the University for academic reasons is to remove permanently from the University those students who would not ultimately meet requirements for graduation if they were to continue or resume university work at a level of performance at as high as may reasonably be anticipated considering all relevant circumstances.

The conditions of exclusion from the University for academic reasons should select students whose performance indicates that there is no reasonable expectation that they would fulfill requirements for graduation whether they are allowed to continue as current University students, or are allowed to enroll again at some time in the future.

1. All undergraduate students (classified other than 6) who do not receive passing grades (A,B,C,D,) in more than one-half of the hours attempted in any term or semester shall be suspended immediately from the University. If such a student was not on probation for academic reasons and had not been previously suspended for academic reasons, the suspension shall be for one full semester. If the student was on probation for academic reasons or had previously been suspended for academic reasons, he shall be excluded from the University without the opportunity to re-enroll. (In applying the preceding, failure in only one course carrying five semester hours or less shall not cause the student to be suspended under this provision.)

All undergraduate students who are dropped from a course because of excessive absences or unsatisfactory work, and as a result of such drop are left with an academic

* Consisting of three members appointed by the Dean of the University College.

load of less than twelve semester hours, shall be suspended immediately. If such a student was on probation or had been previously suspended for academic reasons, he shall be excluded from the University without the opportunity to re-enroll. If the student was not on probation and had not been previously suspended for academic reasons, the suspension shall be for one full semester.

Any student who is eligible to return to the University after a suspension because of academic reasons (failure to receive passing grades in more than one-half of his work or having his load reduced to less than twelve hours), shall be placed on scholarship probation for his next semester.

The terms for satisfying such a probation shall be the achievement of a grade point average of 2.0. Failure to meet the conditions of this probation shall result in exclusion without the opportunity to re-enroll.

2. An Upper Division student on academic probation (under Article IV or XV) will be ineligible for further registration in the University unless he maintains a 2.0 grade point average in all work attempted that semester or his 2.0 cumulative grade point average in the total of all work attempted while registered in his present Upper Division college. Such a student will also be considered as having failed to meet the terms of his probation if he withdraws from the University in the semester in which he is on scholarship probation, if the withdrawal is after the last day for dropping courses without receiving a failing grade (See University Calendar).

GRADUATE STUDENTS:

Any graduate student may be denied further registration in the University or in his graduate major when his progress toward completion of his planned graduate program becomes unsatisfactory.

ADMINISTRATIVE PROVISIONS

All actions taken under these regulations shall be reflected by appropriate notations on the student's record.

A student attending a summer session prior to his probational semester may satisfy the terms of his probation if he obtains the necessary grade point average as indicated above, computed by taking the grades of his last semester and summer session together.

EFFECTIVE DATE

Those sections of the above which refer to a change of grade point average minimums will be effective with grades received after September, 1960.

ABSENCES OR UNSATISFACTORY WORK

Absences count from the first meeting of the class rather than from the date a student registers for a class.

A. If any student accumulates absences or fails to do class work to the extent that further enrollment in the class appears to be of little value to him or detrimental to the best interest of the class, it shall be the duty of the instructor to warn such student in writing that further absences or failure to do class work will cause him to be suspended from the course with a failing grade. Where possible this warning will be delivered personally; otherwise, it will be mailed to the student's last University address by the Registrar. Instructors shall immediately report all such warnings to the department head or course chairman. Should any absences or failure to do class work be incurred after this warning, the student will be suspended from the class and be given a failing grade by the Registrar upon receipt of notice from the instructor showing the date of warning.

   Should this reduce the load of the student below the minimum required, he will be suspended from the University.

B. When a student is suspended from a course under the provision of A above, his parents shall be notified in writing by the Registrar.

C. NINE-DAY RULE: No student shall absent himself from the University for more than nine scholastic days per semester in order to participate in athletic or in extracurricular activities.

The Nine-Day Rule applies to individual members of the group rather than to the group as a whole. Consequently, a schedule of more than nine days for any activity is not prohibited, provided the personnel of the group is so rotated that no student is absent from the campus for more than nine "scholastic" days (a scholastic day is any day on which regular class work is scheduled).

D. A student who has been warned for absences or unsatisfactory work in any class should not incur additional absences in that course, even though he has not been absent from the class for nine scholastic days. It is the responsibility of the student to see that his class work and attendance is satisfactory.

STUDENT OPERATION OF AUTOMOBILES

Freshmen and Sophomores are not permitted to have automobiles, with a few minor exceptions. The regulations on operation and registration of automobiles are published in a separate bulletin available to all students on request. All cars operated by students must be registered with the University Police.

Each student is held responsible for the registration, parking and traffic regulations as published in the special bulletin.

The Lower Division University College

INTRODUCTORY STATEMENT

All freshmen and sophomores who enter the University of Florida, enroll in the University College. This unit offers a basic General education program as the foundation of a true liberal education, and administers the pre-professional work required by the Upper Division schools and colleges. Before a student makes his tentative choice of an educational goal final, he is given a long hard look at the great fields of human thought and achievement. There is at the college level certain fundamental knowledge that is needed by all beginners, to the end that they develop the attitudes and understanding of desirable human beings and citizens.

Thus the University of Florida while fully accepting its responsibility for the professional training of students who remain four years or longer and earn degrees, as a state institution it also accepts its civic responsibility to help students who remain only one or two years at the University. These students—approximately two-thirds of all who enroll—deserve more from their state university that the usual odd assortment of introductory and pre-professional courses commonly given to freshmen—fragmentary material at its best.

To meet this challenge the University College faculties have worked out integrated comprehensive studies in the following areas:

1. *American Institutions* (their developmental history, problems and processes—social, governmental, and economic.)
2. *The Physical Sciences* (man's environment in the physical universe—study of some of the physical forces).
3. *Reading, Speaking and Writing* (Freshman English, language and communication.)
4. *Effective Thinking* (how to think straight, logic and Math.)
5. *The Humanities* (literature, philosophy, religions and the arts.)
6. *The Biological Sciences* (the living world—its vast historical sweep in time and place.)

These comprehensive courses cut across old department lines. Problems, principles, cases, trends, emerging systems, and other developments are closely studied as staff judgment indicates significant meanings, and experience determines effectiveness. Yearly revisions are in order. These comprehensives, or their equivalents are required of all freshmen and sophomores.

GUIDANCE

If a freshman is still undecided about his life's work, he is not urged to guess on registration day. His program may be made up largely from the comprehensives which help him direct his thinking toward a desirable objective, together with approved electives that may further enable him to explore interests and needs. But whether the student is decided or undecided about his life's work, these comprehensive courses provide basic preparation that every educated person should have.

Thus since the purpose of general education is to replace fragmentation, the program absorbs much of the responsibility for guidance. Every subject or course of the University College program is designed to *guide* the student. During the time that he is making tentative steps toward a profession by taking special subjects to test aptitudes, interests, and ability, he is also studying the several great areas of human understanding and achievement. The work in the University College presents materials which are directly related to life experiences and which will immediately become a part of the student's thinking to guide him to making correct *next steps*. Thus the whole program—placement tests, progress reports, vocational aptitude tests, basic vocational materials, selected material in the comprehensive courses, student conferences, adjustments for individual differences, election privileges, and comprehensive examinations—all are parts of a plan designed to *guide* students.

SUPERIOR STUDENTS

The superior student is sometimes given (1) an accelerated program. In several ways he may shorten the time he spends in college. This may be accomplished by taking a heavier semester load than that given the average student, or by earning credits toward graduation by individual study and comprehensive examinations. The emphasis for the superior student may take the form of (2) an enriched program. Honors sections, and the many rewards attached to high grades may stimulate the student to study well the materials at hand. Still further, the superior student may be permitted to work out (3) an individual program. This emphasis means that there is no attempt to "spoon-feed" the superior student. The very nature of the objective calls for self-initiative, planning, and carry through on the part of the individual himself. Of course there are certain boundary stakes, certain achievement measures, and directional suggestions, but in many respects the superior student is to be "let alone." If he is superior he should not be checked too closely on such incidentals as clock hours and class attendance.

The University College uses part of the three ideas.

POLICIES AND PRINCIPLES

1. The superior student in the University College may work for honors, high honors, or plan an individual program that provides for (1) acceleration, or (2) enrichment. This means that the student may make any combination of the four ideas.
2. To accelerate, a superior student (3.0 av.) may request more than the normal semester load, or, if he passes the progress tests he is eligible to earn credit by examination. A student may use both methods.
3. A student may earn honors or high honors in any C-course area.
4. To earn college honors, and college high honors:

   Group I —C-11, C-12, C-31, C-32, C-51, C-52
   Group II—C-21, C-22, C-41, C-42, C-61, C-62

   a. All candidates must maintain at least a 3.0 average in all subjects.
   b. To receive college honors, students must receive honors in 3 semester subjects of one group and receive honors in 2 semester subjects of the other group (see above).
   c. To receive college high honors students must receive honors in four semester subjects of one group, receive honors in two semester subjects of the other group, and be recommended for high honors by at least two departments of one group and one department in the other group.

UPPER DIVISION COOPERATION

While the necessary correlation and unification is attempted at the University College Office, throughout the University College period students consult Upper Division deans and department heads to discuss work. During the last month of each school semester these informal conferences are supplemented by a scheduled formal conference at which each student fills out a pre-registration card for his prospective Upper Division work.

UNIVERSITY COLLEGE COUNSELORS

The University College Counselors do not assume the responsibility that every student himself must take, but they help in every way possible as he assumes a greater and greater share of responsibility in his University education. The counselors are located in the University College Office.

Every spring the University is privileged to give placement tests to all seniors in every high school of the state. Since many high schools are also trying to acquaint the student with the common body of knowledge so needed by all, their records along with the placement tests results indicate the variation that may be made in the general program.

A student who has had three or four years of preparatory school study in any one of the subjects areas of the comprehensive courses, and his placement tests or progress tests indicate superior knowledge and understanding at this level may consult one of the counselors for subsequent needed program adjustment.

THE ASSOCIATE OF ARTS CERTIFICATE

The Associate of Arts Certificate is awarded in recognition of the successful completion of two years of planned work. Specifically, one must pass at least sixty-four semester hours including pre-professional work and the comprehensive courses that make up the core program.

PROGRAMS OF STUDY

BASIC PLAN

Freshman Year	*Hours*
1.—American Institutions	8
2.—The Physical Sciences	6
3.—Reading, Speaking, and Writing: Freshman English	8
4.—Logic and Mathematics	6
5.—Departmental Electives	2-6
Military Science; Physical Fitness	2
	30-34

Sophomore Year	*Hours*
1.—The Humanities	8
2.—Biological Science	6
3.—Departmental Electives	16-20
Military Science; Physical Fitness	2
	30-34

At least sixty-four semester hours, which may include four hours of Military Science, are required to complete the Lower Division.

AGRICULTURE

Students planning to enter the College of Agriculture should take, while in the University College, the following program of study. The sequence in which courses are to be taken will depend upon the department in which a student takes his major in the upper division and will be determined by the counselors of the College of Agriculture.

BASIC CURRICULUM—FRESHMAN AND SOPHOMORE YEARS

Course First Semester	*Credits*
C-11—American Institutions	4
C-31—Reading, Speaking and Writing	4
BTY. 180—Elementary Botany	4
CY. 215—Introductory Chemistry	3
C-41—Logic	3
C-51—Humanities	4
Military Science & Physical Fitness[1]	4
Electives in Agriculture*	3-4

Courses Second Semester	*Credits*
C-12—American Institutions	4
C-32—Reading, Speaking and Writing	4
BLY. 181—General Zoology	4
CY. 217—General Chemistry and Qualitative Analysis	4
C-42—Fundamental Mathematics	3
C-52—Humanities	4
AS. 201—Principles of Agricultural Economics	3
Approved Electives*	7-8

Total Credits—64

[1]One hour must be taken each semester.

*Elective courses must have the approval of the Dean of the College of Agriculture. The following courses have been approved as suitable electives in Agriculture: ACY. 208, AS. 306, or 308, AG. 306, AY. 221, AL. 309, BCY. 300, BTY. 211 or 280, DY, 211, EY. 203, 307, EDF. 245, FY. 313, FT. 201, FC. 201, OH. 203 or 217, PT. 321, PY. 201, SLS. 310-311, VC. 212.

VETERINARY TRAINING UNDER REGIONAL PLAN

In accordance with the Regional Plan for Veterinary Education a limited number of bona fide residents of Florida are admitted each fall to the School of Veterinary Medicine, Auburn University.

The minimum educational entrance requirement is the satisfactory completion of two years of study in an approved, accredited college or university. A total of 60 semester hours of college work must be completed with no grade less than C and a grade point average of at least 2.25. Required courses include general chemistry and qualitative analysis, organic chemistry, mathematics, physics, English, American institutions, botany, zoology, medical vocabulary or a foreign language, certain animal husbandry courses, and elec-

tives. In addition, applicants must meet military and physical fitness requirements in effect at the institution attended.

Due to the rigid course requirements, most students require somewhat more than two years to complete this curriculum. Also, since certification and admission to Veterinary School is competitive, based on a quota under the Regional Education Plan, students usually need to make considerably more than the minimum grade point average of 2.25.

Pre-veterinary students should consult the Dean of the College of Agriculture before registering for the pre-veterinary curriculum.

Residents of Florida who will have completed the pre-veterinary requirements in June of the year entrance into the School of Veterinary Medicine is desired in the fall, and who wish to be included in the State's list of eligibles, should see the Dean of the College of Agriculture or address inquiries to:

Executive Director, Board of Control for Regional Education Tallahassee, Florida

ARCHITECTURE AND FINE ARTS

The University College student who plans to earn a degree in the College of Architecture and Fine Arts elects one of the following basic programs:

A.—For the degree in Architecture—

Freshman Year

	Hours
1.—C-11-12, American Institutions	8
2.—C-31-32, Reading, Speaking and Writing: Freshman English	8
3.—*MS. 205-206, Basic Mathematics	8
4.—AE. 111-112, Graphic Techniques I, II	4
5.—AE. 121-122, The Building Arts I, II	5
6.—MY. 101-102, Military Science or Elective	2
7.—PL. 101-102, Physical Fitness	0
	35

Sophomore Year

	Hours
1.—C-51-52, The Humanities	8
2.—C-61-62, Bioligical Science	6
3.—**PS. 201-202, General Physics	6
4.—AE. 211-212, Visual Expression, I, II	4
5.—AE. 231-232, Elementary Architectural Design I, II	6
6.—AE. 241-242, Materials & Methods of Construction I, II	4
7.—MY. 201-202, Military Science or Elective	2
8.—PL. 103-104, Physical Fitness	0
	36

B.—For the degree in Landscape Architecture—

Freshman Year

	Hours
1.—C-11-12, American Institutions	8
2.—C-21-22, The Physical Sciences	6
3.—C-31-31, Reading, Speaking, and Writing: Freshman English	8
4.—AE-111-112, Graphic Techniques, I, II	4
5.—AE-121-122, The Building Arts, I, II	5
6.—MY-101-102, Military	2
7.—PL-101-102, Physical Fitness	0
	33

Sophomore Year

	Hours
1.—C-41, Practical Logic	3
2.—C-42, Fundamental Mathematics	3
3.—C-51-52, The Humanities	8
4.—C-61, Biological Science	3
5.—BTY-180, General Botany	4
6.—AE-211-212, Visual Expression, I, II	4
7.—AE-231-232, Elementary Architectural Design, I, II	6
8.—AE-241, Materials and Methods of Construction, I	2
9.—MY-201,202, Military	2
10.—PL-103-104, Physical Fitness	0
	35

C.—For the degree in Interior Design—

Freshman Year

	Hours
1.—C-11-12, American Institutions	8
2.—C-31-32, Reading, Speaking, Writing: Freshman English	8
3.—C-41, Practical Logic	3
4.—C-42, Fundamental Mathematics	3
5.—AE. 111-112, Graphic Techniques I, II	4
6.—AE. 121-122, The Building Arts I, II	5
7.—MY. 101-102, Military	2
8.—PL. 101-102, Physical Fitness	0
	33

Sophomore Year

	Hours
1.—C-21-22, The Physical Sciences	6
2.—C-51-52, The Humanities	8
3.—C-61-62, The Biological Sciences	6
4.—AE. 211-212, Graphic Expression I, II	4
5.—IR. 231-232, Elementary Interior Design, I, II	6
6.—AE. 241, Materials and Methods of Construction I	2
7.—MY. 201-202, Military	2
8.—PL. 103-104, Physical Fitness	0
	34

D.—For the degree in Building Construction—

Freshman Year

	Hours
1.—C-1, American Institutions	8
2.—C-3, Freshman English	8
3.—*MS. 205-6, Basic Mathematics	8
4.—AE. 121, The Building Arts I	2
5.—BCN. 102, Construction Drawing	3
6.—MY. 101-2, Military	2
7.—PL. 101-2, Physical Education	0
	31

Sophomore Year

	Hours
1.—C-5, The Humanities	8
2.—C-6, Biological Science	6
3.—**PS. 201-2, General Physics	6
4.—BCN. 203, Construction Planning	3
5.—BCN. 204, History of Building	3
6.—BCN. 205, Basic Studies of Materials	3
7.—BCN. 206, Construction Mechanics	3
8.—MY. 201-2, Military	2
9.—PL. 103-4, Physical Education	0
	34

*Students not qualified for MS. 105-6 will take C-42 first.
**Students not qualified for PS. 201-2 will take C-22 first.

E.—For the degree in Art (Fine Arts, History of Art, Crafts, or Advertising Design)—

Freshman Year

	Hours
1.—C-11-12—American Institutions	8
2.—C-21-22—The Physical Sciences	6
3.—C-31-32—Reading, Speaking and Writing: Freshman English	8
4.—ART 101-102—Beginning Design	4
5.—ART 103-104—Beginning Drawing and Painting	4
6.—Military Science or Elective	2
7.—Physical Fitness	0
	32

Sophomore Year

	Hours
1.—C-41-42—Logic and Mathematics 5	6
2.—C-51-52—The Humanities	8
3.—C-61-62—Biological Science	6
4.—ART 205—Intermediate Design	2
5.—ART 206—Intermediate Drawing and Painting	2
6.—ART 207-208—Intro. to the Principles & History of Art	6
7.—Military Science or Elective	2
8.—Physical Fitness	0
	32

F.—For the degree in Art Education

Freshman Year

	Hours
1.—C-11-12—American Institutions	8
2.—C-21-22—The Physical Sciences	6
3.—C-31-32—Reading, Speaking and Writing: Freshman English	8
4.—ART—101-102—Beginning Design	4
5.—ART 103-104—Beginning Drawing and Painting	4
6.—Military Science or Elective	2
7.—Physical Fitness	0
	32

Sophomore Year

	Hours
1.—C-41-42—Logic and Mathematics	6
2.—C-51-52—The Humanities	8
3.—C-61-62—Biological Science	6
4.—ART 205—Intermediate Design	2
5.—ART 206—Intermediate Drawing and Painting	2
6.—SCA. 253—Art Education I	3
7.—EDF. 245—Human Growth & Development	3
8.—Military Science or Elective	2
9.—Physical Fitness	0
	32

G.—For the degree in Music Education—

Freshman Year

	Credits
1.—C-11-12, American Institutions ...	8
2.—C-31-32, Freshman English	8
3.—C-51-52, The Humanities	8
4.—MSC. 101-102, Theory of Music	6
5.—Applied Music in Courses below 100: Major Instrument or Voice	2
6.—Ensemble: Band, Chorus, or Orchestra	2
7.—MY. 101-102, Military Science or Elective	2
8.—PL. 101-102, Physical Fitness ...	0
	36

Sophomore Year

	Credits
1.—C-21-22, The Physical Sciences ..	6
2.—C-41-42, Logic and Mathematics .	6
3.—C-61-62, Biological Science	6
4.—MSC. 201-202, Theory of Music	6
5.—Applied Music in Courses above 100: Major Instrument of Voice	4
6.—Ensemble: Band, Chorus, or Orchestra	2
7.—EDF. 245, Human Growth and Development	3
8.—MY. 201-202, Military Science or Elective	2
9.—PL. 103-104, Physical Fitness	0
	35

ARTS AND SCIENCES

University College students who plan to enter the College of Arts and Sciences should:

1. Complete with satisfactory grades each of the "C" courses of the Lower Division or acceptable equivalent courses. (The University College counselor can explain what are acceptable equivalent courses.) This should be the first concern of future Arts and Sciences students.

2. During their first semester or as soon as they have selected a major field, they should consult with the adviser for the proposed major department. (The name, office address, and counseling hours of these advisers are available in the Arts and Sciences College office, 103 Anderson Hall.)

3. Begin their foreign language requirement while registered in the University College.

4. Use the balance of their elective opportunities in the Lower Division in taking a selection of 100 and 200 level courses in several Arts and Sciences departments. Arts and Sciences courses numbered 300 or above are not available to Lower Division Students except with written permission from the department offering such courses.

5. Study the material on admission, advisement panel, and requirements for degrees under the Arts and Sciences section of this catalog.

TEACHER PREPARATION IN ARTS AND SCIENCES

Students may earn their degree in the College of Arts and Sciences, and complete requirements for certification as a high school teacher in one or more academic subjects by following one of the Arts and Sciences—Education Programs described in the College of Education section in this catalog.

Further information may be obtained in the College of Arts and Sciences Office, 103 Anderson Hall.

PRE-MEDICAL OR PRE-DENTAL STUDENTS

The College of Arts and Sciences maintains a Pre-Professional Counseling Office for medical and allied fields in Room 12, Flint Hall. Pre-medical or Pre-dental students should register with this office during the first week or two of each semester in which they are in school. Through the work of this office such students are given assistance in planning their program, provided with recent information concerning admission requirements to various schools, and a file on each pre-medical or pre-dental student is established which later furnishes the material for recommending the student to the medical or dental school.

The following programs are recommended for the first two years:

I

Recommended for students who have taken a college preparatory course in high school, have made a total score of 400 or better on the Florida H. S. Placement tests and have sufficient background in mathematics to take MS-205.

Freshman Year

	Hours
1.—C-1, American Institutions	8
2.—C-3, Reading, Speaking and Writing, Freshman English	8
*3.—Botany 180-Biology 181	8
4.—Chemistry 217-218, General Chemistry & Qualitative Analysis	8
5.—Military Science; Physical Fitness	2
	34

Sophomore Year

	Hours
1.—C-5, The Humanities	8
2.—Chemistry, 301-302, and 303-304 Organic Chemistry	8
3.—Biology, 309-310, Comparative Anatomy and Embryology	8
4.—MS. 205-206, Basic Mathematics	8
5.—Electives	2-3
6.—Military Science; Physical Fitness	2
	36-37

*Students who qualify should take BLY 217 instead of Botany 180 and Biology 181. See catalog description of Biology 217 on Page 262.

II

For students who do not qualify for Program I.

Freshman Year

	Hours
1.—C-1, American Institutions	8
2.—C-3, Reading, Speaking and Writing, Freshman English	8
3.—Botany 180-Biology 181	8
4.—CY. 215-217, General Inorganic Chemistry	8
5.—Military Science; Physical Fitness	2
	34

Sophomore Year

	Hours
1.—C-4, Fundamental Mathematics and Practical Logic	6
2.—C-5, The Humanities	8
3.—BLY. 309-310, Comparative Anatomy & Embryology	8
4.—CY. 218, Qualitative Analysis	3
5.—MS. 205 or CY. 331	3-4
6.—Electives	4
7.—Military Science; Physical Fitness	2
	34-35

NOTE: Under either program General Physics (PS. 201-202, 207-208) and under Program II Organic Chemistry (CY. 301-202, and CY. 303-304) would normally be taken in the Junior Year. However, any student who wishes to take Physics sooner to start his major earlier, or to continue a foreign language already begun in High School may do so by making appropriate substitutions in the freshman and/or sophomore year and postponing some of the sciences until later. Pre-medical students should carry at least 17 hours and pre-dental students at least 16 hours each semester. Individual programs for the Junior and Senior years are made out in consultation with a pre-medical or pre-dental advisor.

BUSINESS ADMINISTRATION

To enter the College of Business Administration, students are required to complete the curriculum below or the equivalent thereof in each of the courses or areas of knowledge listed including the following:

ATG. 211-212—Elementary Accounting
BS. 101—Business in a Dynamic Society
ES. 201-202—Basic Economics
ES. 203—Elementary Statistics
EH. 212—Advanced Composition
or EH. 255—Business Communications
MS. 205—Basic Mathematics
MS. 207—Basic Mathematics for the Social Sciences

FRESHMAN YEAR

First Semester	Hours	Second Semester	Hours
1.—American Institutions	4	1.—American Institutions	4
2.—Logic	3	2.—The Physical Sciences	3
3.—Reading, Speaking and Writing: Freshman English	4	3.—Reading, Speaking and Writing: Freshman English	4
4.—Business in a Dynamic Society	2	4.—Basic Mathematics for the Social Sciences	5
5.—Basic Mathematics	3	5.—Military Science; Physical Fitness	1
6.—Military Science; Physical Fitness	1		
	17		17

SOPHOMORE YEAR

First Semester	Hours	Second Semester	Hours
1.—Accounting	3	1.—Accounting	3
2.—Economics	3	2.—Economics	3
3.—The Humanities	4	3.—The Humanities	4
4.—Biological Science	3	4.—Biological or Physical Sci.	3
5.—English Composition*	2-3	5.—Statistics	3
6.—Military Science; Physical Fitness	1	6.—Military Science; Physical Fitness	1
	16-17		17

*Students receiving less than a 16.5 percentile score in C-32 Writing Laboratory will be required to satisfactorily complete EH. 133 (Effective Writing) before taking EH. 212 or EH. 255. Students demonstrating outstanding achievement will be excused from EH. 212 and EH. 255, and may insert electives at this point with the approval of the College of Business Administration.

COURSES OFFERED BY THE COLLEGE OF BUSINESS ADMINISTRATION AVAILABLE TO STUDENTS IN THE UNIVERSITY COLLEGE

The following courses offered by the College of Business Administration may be taken by students in the University College; ATG. 211-212, Elementary Accounting; BS. 101, Business in a Dynamic Society; ES. 201-202, Basic Economics; ES. 203, Elementary Statistics; ES. 208, Economic History of the United States; ES. 246, Consumer Economics; ES. 296, Industry and Trade of Latin America; MGT. 271, Principles of Management; MKG. 233, Salesmanship, and RE. 295, Housing and Home Ownership.

It is anticipated that some students who do not plan a four-year program will elect to take many of these courses or to arrange a program of two years or less in length in which many of these courses would be included. Also some students not headed for the College of Business Administration may wish to elect one or more of these courses.

EDUCATION

University College Students working toward a degree in the College of Education should pursue one of the following programs:

BASIC PROGRAM

(Except Agricultural Education)

Freshman Year	Credits	Sophomore Year	Credits
1.—American Institutions	8	1.—The Humanities	8
2.—The Physical Sciences	6	2.—Biological Science	6
3.—Reading, Speaking and Writing: Freshman English	8	3.—Logic or Mathematics	3
4.—Logic or Mathematics	3	4.—Military Science or Electives	2
5.—Military Science or Electives	2	5.—Electives (approved)	9
6.—Electives (approved)	6-8	6.—Physical Fitness	0
7.—Physical Fitness	0	7.—EDF. 245—Human Growth and Development	3
	33-35		31

ELECTIVES:

Art Education: ART 101, 102, 103, 104, 205, 206; SCA. 253.
Elementary Education: SCA. 253; PHA. 373; MSC. 160 (or music skills test); MSC 390
Music Education: MSC. 101, 102; 4 credits in ensemble, 4 credits in applied music.
Physical Education for Men: PHA. 251, 283, 284, 287.
Physical Education for Women: PHA. 251, 252, 253, 254, 255, 256, 257, 258.
Secondary Education: 9 hours of basic courses in the teaching field.

In Secondary Education and Elementary Education, 3 hours in the Human Adjustment Area, other than C-41 are required. These electives may be taken either in the University College or in the College of Education.

BASIC PROGRAM FOR AGRICULTURAL EDUCATION

Freshman Year

	Credits
1.—American Institutions	8
2.—Reading, Speaking and Writing: Freshman English	8
3.—BTY. 180, Elementary Botany	4
4.—BLY. 181, General Zoology	4
5.—Electives in Agriculture	6
6.—Military Science; Physical Fitness	2
	32

Sophomore Year

	Credits
1.—Practical Logic	3
2.—Fundamental Mathematics	3
3.—The Humanities	8
4.—CY. 215, Introduction to Chemistry	3
5.—CY. 217, General Chemistry and Qualitative Analysis	4
6.—Electives in Agriculture	6
7.—Approved Electives	3
8.—Military Science; Physical Fitness	2
	32

ENGINEERING

The program for the first and second year students expecting to earn a degree in the College of Engineering will vary depending upon the individual student's capabilities. The program of the College of Engineering is a five year *program;* however, superior students are urged to accelerate their programs. *Students should work closely with their counselor in planning their pre-engineering programs.*

One example of the first and second year of a five year plan:

1st Year

First Semester

	Credits
1.—C-11 American Institutions	4
2.—C-31 Reading, Speaking and Writing: Freshman English	4
*3.—Ms-205 Basic Mathematics	3
**4.—EGR-181 Engineering Drawing	2
5.—EGR-180 Engineering Concepts and Studies	1
6.—MY-101 Military Science	1
7.—PL-101 Physical Fitness	0
	15

Second Semester

	Credits
1.—C-12 American Institutions	4
2.—C-32 Reading, Speaking and Writing: Freshman English	4
*3.—MS-206 Basic Mathematics	5
**4.—EGR-182 Descriptive Geometry	3
5.—MY-102 Military Science	1
6.—PL-102 Physical Fitness	0
	17

2nd Year

Third Semester

	Credits
1.—C-51 The Humanities	4
2.—MS-353 Differential Calculus	5
3.—CY-217 General Chemistry and Qualitative Analysis	4
4.—MY-201 Military Science	1
5.—PL-103 Physical Fitness	0
	14

Fourth Semester

	Credits
1.—C-52 The Humanities	4
2.—MS-354 Integral Calculus	3
3.—CY-218 General Chemistry and Qualitative Analysis	4
4.—PS- 205 General Physics	3
5.—PS-207 Laboratory for Physics	1
6.—MY-202 Military Science	1
7.—PL-104 Physical Fitness	0
	16

One example of the first and second year for an accelerated (4 year) plan for *superior* students

1st Year

First Semester

	Credits
1.—C-11 American Institutions	4
2.—C-31 Reading, Speaking and Writing: Freshman English	4
*3.—MS-206 Basic Mathematics	5
4.—EGR-180 Engineering Concepts and Studies	1
**5.—EGR-181 Engineering Drawing	2
6.—CY.-217 General Chemistry and Qualitative Analysis	4
7.—MY-101 Military Science	0
	21

Second Semester

	Credits
1.—C-12 American Institutions	4
2.—C-32 Reading, Speaking and Writing: Freshman English	4
3.—MS-353 Differential Calculus	5
**4.—EGR-182 Descriptive Geometry	3
5.—CY-218 General Chemistry and Qualitative Analysis	4
6.—MY-102 Military Science	1
	21

2nd Year

Third Semester

	Credits
1.—C-51 The Humanities	4
2.—MS-354 Integral Calculus	3
3.—PS-205 General Physics	3
4.—PS-207 Laboratory for Physics	1
5.—Special assigned Upper Division course work	6 or 9 hours
	17 or 20 hours

Fourth Semester

	Credits
1.—C-52 The Humanities	4
2.—MS-420 Differential Equations	3
3.—PS-206 General Physics	3
4.—PS-208 Laboratory for Physics	1
5.—EM-365 Engineering Mechanics-Statics	3
6.—Specially assigned Upper Division course work	3 or 6 hours
	17 or 20 hours

*In cases where students, on the basis of superior placement test grades, are allowed to omit starred courses, they will need to take an equivalent amount of more advanced work in order to be eligible for admission to the College of Engineering at the end of the second year.

**Drawing equipment required for EGR-181, EGR 182, and subsequent courses cost approximately thirty dollars.

Students whose records in the University College do not indicate that they are qualified to take the professional courses in Engineering will not be admitted to the College of Engineering.

FORESTRY

The program for freshmen and spohomores planning to earn a degree in the School of Forestry is as follows*:

Freshman Year

		Credits
C-1	American Institutions	8
C-3	Reading, Speaking & Writing	8
**C-42	Fundamental Mathematics	3
Ms. 325	Adv. Gen. Math.	3
**Cy. 215	Introductory Chemistry	3
Bty. 180	Introductory Botany	4
Fy. 220	Introduction to Forestry	2
Military Science		2
Physical Fitness		0
		33

Sophomore Year

		Credits
C-5	Humanities	8
Cy. 217-218	General Chemistry	8
Ms. 327	Adv. Gen. Math.	3
Bly. 181	General Zoology	4
As. 201	Prin. Agric. Econ.	3
Fy. 222	Forest Drawing	1
Fy. 226-227	Dendrology	4
Military Science		2
Physical Fitness		0
		33

*Preforestry students will consult with advisers in the School of Forestry.

**Students with adequate preparation in mathematics and chemistry may omit C-42 and Cy. 215, registering for advanced work in order to have the required 64 credits for transfer to the School of Forestry at the end of the second year.

HEALTH RELATED SERVICES

The University College student who plans to earn a degree in the College of Health Related Services elects one of the following programs:

A.—For the degree in Medical Technology—

Freshman Year

	Hours
1.—C-1, American Institutions	8
2.—C-3, Reading, Speaking, and Writing	8
*3.—C-4, Logic and Mathematics	6
#4.—CY. 215, Introductory Chemistry	3
5.—CY. 217, General Chemistry	4
6.—Military Science and/or Elective	3
7.—Physical Fitness	0
	32

Sophomore Year

	Hours
1.—C-5, The Humanities	8
2.—BTY. 180, Introductory Botany	4
3.—BLY. 181, General Zoology	4
4.—CY. 218, General Chemistry	4
5.—CY. 362-363, Organic Chemistry	5
6.—HRS. 201, Introduction to Health Related Services	2
7.—PS. 109-110, Elements of Physics	4
8.—Military Science and/or Elective	3
9.—Physical Fitness	0
	34

B.—For the degree in Occupational Therapy—

Freshman Year

	Hours
1.—C-1, American Institutions	8
2.—C-2 The Physical Sciences	6
3.—C-3, Reading Speaking, and Writing	8
*4.—C-4, Logic and Mathematics	6
5.—ART 101-2, Beginning Design	4
6.—Physical Fitness	0
	32

Sophomore Year

	Hours
1.—C-5, The Humanities	8
2.—BTY. 180, Introductory Botany	4
3.—BLY. 181, General Zoology	4
4.—HRS. 201, Introduction to Health Related Services	2
5.—PSY. 201, General Psychology	3
6.—PSY. 202, Personality Development	3
7.—IN. 330, Elementary Handcrafts	3
8.—Approved Electives	5
9.—Physical Fitness	0
	32

C.—For the degree in Physical Therapy—

Freshman Year

	Hours
1.—C-1, American Institutions	8
2.—C-3, Reading, Speaking and Writing	8
*3.—C-4, Logic and Mathematics	6
4.—CY. 217-218, General Chemistry and Qualitative Analysis	8
5.—Military Science or Electives	4
6.—Physical Fitness	0
	34

Sophomore Year

	Hours
1.—C-5, The Humanities	8
2.—BTY. 180, Introductory Botany	4
3.—BLY. 181, General Zoology	4
4.—PSY. 201, General Psychology	3
5.—PSY. 202, Personality Development	3
6.—HRS. 201, Introduction to Health Related Services	2
7.—PS. 109-110, Elements of Physics	4
8.—Military Science or Electives	4
9.—Physical Fitness	0
	32

The College of Arts and Sciences maintains a Pre-Professional Counseling Office for medical and allied fields in Room 12, Flint Hall. Students planning to study medical technology, occupational therapy, or physical therapy should register with this office during the first week or two of each semester in which they are in school.

*Students who qualify may take MS. 105 or MS. 325 instead of C-42. Consult University College Counselor.

#If required; otherwise CY. 217-218 is taken in Freshman Year, and 4 additional elective credits are taken in Sophomore Year.

JOURNALISM AND COMMUNICATIONS

Curricula leading to the Bachelor of Science in Advertising, Journalism, or Boradcasting.

Freshman Year

	Credits
C 11-12—American Institutions	8
C 21-22—The Physical Sciences	6
C 31-32—Reading, Speaking and Writing: Freshman English	8
C 41-42—Logic and Mathematics	6
JM 118—Survey of Communications	3
Military Science or Elective	2
Physical Fitness	0
	33

Sophomore Year

	Credits
C 51-52—The Humanities	8
C 61-62—Biological Science	6
ART 101—Beginning Design (Advertising majors only)	2
ES 201—Basic Economics	3
LY 201—Uses of Books and Libraries	1
JM 201—Writing for Mass Communications	3
BR 212—Broadcasting Announcing (Broadcasting majors only)	3
SCH 201—Effective Speaking Journalism-Advertising majors only)	3
Military Science or Elective	2
Electives	3-5
	31

COLLEGE OF LAW

The College of Law offers a three-year program leading to the degree of Bachelor of Laws. Admission is limited to those with a bachelor's degree from an accredited college or university who have satisfactory undergraduate records and have attained a satisfactory score on the Law School Admission Test. For detailed information on admission requirements, courses and programs, see the Bulletin of the College of Law.

THE COLLEGE OF MEDICINE

The College of Medicine, a unit of the University of Florida's J. Hillis Miller Health Center, is located on the main campus of the University in Gainesville. Other units of the Health Center are the Colleges of Nursing, Pharmacy, Health Related Services and the Teaching Hospital and Clinics.

Educationally the program of the College of Medicine is designed to provide the very finest education possible in the scientific aspects of medicine. The proximity of the College to the University proper also offers an unusual opportunity for many of the varied resources of the University to be applied not only to the training of physicians but to the training of basic scientists as well. While modern practice in patient care is the central theme of the educational program, considerable stress is placed on research and teaching in all fields related to health.

Design of the Health Center's educational program and physical plant is such that students in the College of Medicine join students of the other health professions, utilizing cooperatively the many resources and facilities of the Health Center and a great University, in order that they might work better together later in their professional careers.

For information on admission requirements and courses for the program leading to the degree of Doctor of Medicine, see the Bulletin of the College of Medicine. For information on graduate programs in medical sciences leading to the degree of Doctor of Philosophy, see the Bulletin of the Graduate School.

NURSING

The program for freshman and sophomores planning to earn a degree in the College of Nursing is as follows:

Freshman Year

	Hours
C-11-12—American Institutions	8
C-61-62—Biological Science	6
C-31-32—Reading, Speaking & Writing	8
C-41-42—Logic and Mathematics	6
NSG-101*—Introduction to Nursing	3
NSG-111*—Introduction to Nursing Functions	3
Physical Education	0
	34

Sophomore Year

	Hours
C-51-52—The Humanities	8
C-21-22C or 22X—The Physical Sciences	6
NSG-220-221—Nursing Skills Laboratory	4
BCY-300—Bacteria in Everyday Life	3
FT-250—Fundamentals of Human Nutrition	2
EDF-245—Human Growth and Development	3
Electives	6
Physical Education	0
	32

*Half the freshman class will take NSG-101 1st semester and NSG-111 2nd semester. The other half will take NSG-111 1st semester and NSG-101 2nd semester.

The College of Nursing, a unit of the J. Hillis Miller Health Center, offers a curriculum leading to the degree Bachelor of Science in Nursing.

PHARMACY

The required five-year program in pharmaceutical education was inaugurated for all students beginning accredited academic studies in or after April, 1960. Students who began a college program in any accredited college or university before April, 1960, may enroll in the older program. This is in keeping with the new regulation required for accreditation by the American Council on Pharmaceutical Education.

All students must be enrolled in one or more Pharmacy courses for a minimum of three academic years or a total of twenty-seven months, regardless of the number of studies completed in other fields. Upon enrolling in Pharmacy courses for the first time students must sign the register in the office of the Dean of the College of Pharmacy.

The following programs are recommended for the first two years:

I. For students who are not under the new regulation:

Freshman Year and Summer Session

	Hours
C-11-12—American Institutions	8
C-31-32—Freshman English	8
C-42—Fundamental Mathematics	3
MS 325—Advanced General Mathematics	3
C-51—The Humanities	4
C-61—Biological Science	3
CY-215-217—General Chemistry and Qualitative Analysis	7
PHY 106—Pharmaceutical Calculations	2
Military Science; Physical Fitness	2
Total	40

Sophomore Year

	Hours
C-52—The Humanities	4
C-62—Biological Science	3
PS 201-2—General Physics	6
PS 207-8—Physics Laboratory	2
PGY 221-2—Practical Pharmacognosy	6
PHY 223-4—Galenical Pharmacy	6
CY 218—General Chemistry and Qualitative Analysis	4
CY 331—Quantitative Analysis	4
Military Science; Physical Fitness	2
Total	37

Only students having an average of C or higher will be admitted to the College of Pharmacy and/or pharmacy courses in the Upper Division. In addition, students must have grades of C or higher in C-42, CY 215-217, PHY 106, PGY 221-222, PHY 223-224.

II. For students who are under the new five-year regulation:

First Year—Freshman Year

	Hours
C-11-12—American Institutions	8
C-31-32—Freshman English	8
C-42—Fundamental Mathematics	3
MS-325—Advanced General Mathematics	3
CY-215-7—General Chemistry and Qualitative Analysis	7
Military Science; Physical Fitness	2
Total	31

Second Year—Sophomore Year

C-51-52—The Humanities	8
C-61-62—Biological Science	6
PS-201-2—General Physics	6
PS-207-8—Physics Laboratory	2
CY 218—General Chemistry and Qualitative Analysis	4
CY-301—Organic Chemistry*	4
Military Science; Physical Fitness	2
Total	32

*The second half (CY. 302) is scheduled in the Upper Division.

Only students having an average of C or higher will be admitted to the College of Pharmacy and/or pharmacy courses.

PHYSICAL EDUCATION AND HEALTH

University College students expecting to earn a degree in the College of Physical Education and Health should pursue one of the following programs.

A.—For men intending to major in Physical Education—

Freshman Year

	Credits
C-11-12—American Institutions	8
C-31-32—Reading, Speaking and Writing	8
C-41-42—Logic and Mathematics	6
PHA. 284—Team Games for Men	2
PHA. 287—Gymnastics for Men	2
Approved Electives	4
Military Science; Physical Fitness	2
	32

Sophomore Year

	Credits
C-21-22—The Physical Sciences	6
C-51-52—The Humanities	8
C-61-62—Biological Science	6
PHA. 251—Square and Social Dance	2
PHA. 283—Track and Baseball	2
EDF. 320—Social Foundations of Education	3
EDF. 245—Human Growth and Development	3
Military Science; Physical Fitness	2
	32

B. For women intending to major in Physical Education—

Freshman Year

	Credits
C-11-12—American Institutions	8
C-31-32—Reading, Speaking and Writing	8
C-41-42—Logic and Mathematics	6
PHA. 251—Square and Social Dance	2
PHA. 252—Modern Dance	1
PHA. 253—Team Sports for Women	2
PHA. 254—Team Sports for Women	2
Approved Electives	3
Physical Fitness	0
	32

Sophomore Year

	Credits
C-21-22—The Physical Sciences	6
C-51-52—The Humanities	8
C-61-62—Biological Science	6
PHA. 255—Individual and Dual Sports for Women	2
PHA. 256—Swimming and Diving for Women	1
PHA. 257—Gymnastics for Women	1
PHA. 258—Tennis and Golf for Women	2
EDF. 320—Social Foundation of Education	3
EDF. 245—Human Growth and Development	3
Physical Fitness	0
	32

C. For men and women intending to major in Health Education—

Freshman Year

	Credits
C-11-12—American Institutions	8
C-31-32—Reading, Speaking and Writing	8
C-41-42—Logic and Mathematics	6
EDF. 245—Human Growth and Development	3
PHA. 261—Personal Hygiene	3
Approved Electives	2
Military Science or Electives	2
Physical Fitness	0
	32

Sophomore Year

	Credits
C-51-52—The Humanities	8
BLY. 181—General Zoology	4
BTY. 180—Introductory Botany	4
*CY. 109-110—Elements of Chemistry	6
EDF. 320—Social Foundations of Education	3
PHA. 262—Community Hygiene	3
Military Science or Electives	2
Approved Electives	2
Physical Fitness	0
	32

*Students planning to major in Health Education must take CY. 109-110. Students whose high school records and placements tests indicate satisfactory preparation may substitute CY. 109-110 for C-21-22. Others should take C-21, upon satisfactory completion of which they may enter CY. 109.

D.—For men and women intending to major in Recreation—

Freshman Year

	Credits
C-11-12—American Institutions	8
C-31-32—Reading, Speaking and Writing	8
C-41-42—Logic and Mathematics	6
PHA. 284—Team Games for Men or PHA. 253—Team Sports for Women	2
EDF. 245—Human Growth and Development	3
Military Science and/or Electives	5
Physical Fitness	0
	32

Sophomore Year

	Credits
C-21-22—The Physical Sciences	6
C-51-52—The Humanities	8
C-61-62—Biological Science	6
PHA. 251—Folk, Social and Tap dance	2
SY. 201—Sociological Foundation of Modern Life	3
PHA. 283—Track and Baseball or PHA. 258—Tennis and Golf for Women	2
Military Science or Electives	5
Physical Fitness	0
	32

The Upper Division College of Agriculture

The aim of the College of Agriculture is to provide students with the best training possible for service in agricultural business, technology, and science.

The departments in the College are: Agricultural Economics, Agricultural Education (administered jointly with the College of Education), Agricultural Engineering, Agronomy, Animal Husbandry and Nutrition, Bacteriology, Botany, Dairy Science, Entomology, Food Technology and Nutrition, Fruit Crops, Ornamental Horticulture, Plant Pathology, Poultry Husbandry, Soils, Vegetable Crops, and Veterinary Science.

REQUIREMENTS FOR ADMISSION

To enter the College of Agriculture students are required to present a certificate of graduation from the University College, or its equivalent in credits from other institutions. Students should have completed the course indicated in the program for freshman and sophomore years in the University College. Curricula of the various departments of the College of Agriculture should be referred to for some special requirements.

BACHELOR OF SCIENCE IN AGRICULTURE
BASIC CURRICULUM

In addition to the basic curriculum of 64 credits required in the University College for entrance to the College of Agriculture (see page), 68 credits must be earned in the College of Agriculture curriculum for a combined total of 132 credits required for the Bachelor of Science in Agriculture degree. A minimum of 15 and a maximum of 26 credits of courses in the student's major department shall be permitted for this degree. The following curriculum common to all areas of Agriculture, designates specific requirements and electives for the degree Bachelor of Science in Agriculture.

CURRICULUM — COLLEGE OF AGRICULTURE — 68 CREDITS
CORE REQUIREMENTS — 20 CREDITS

AREAS OF STUDY	*COURSES*	*CREDITS*
Communications		6
Electives	SCH. 201 or equivalent	3
Electives*	EH. 255, JM. 420, Mod. Lang. or equivalent	3
Social Sciences*		3
Electives	AXT. 301, SY. 201, PSY. 206, ES. 201, or equivalent	
Mathematics*		3
Electives	MS. 325, 105, or equivalent	
Physics		4
Electives	PS. 109-110, or 201-207, or equivalent	
Chemistry**		4
Electives	CY. 218 or equivalent	(20)

OTHER REQUIREMENTS AND ELECTIVES—48 CREDITS

Requirements and Electives in Student Major Department	min. 15—max. 26
Requirements or Electives selected from at least five Agricultural departments other than students major	15
Free and Approved electives	7-18
Total	68 credits

* Vo-Ag majors, see Head of Department for appropriate substitutions.

** Substitutions for chemistry may be from the Biological, Physical and Social Sciences or Mathematics areas for students majoring in Agricultural Economics (AS), Agri-

cultural Engineering (AG), or Agricultural Business Specialization. Students who have previously completed the minimum requirements listed for a specific area of the curriculum core may make appropriate substitutions within the area; or they may substitute other electives approved by their counselors.

AREAS OF SPECIALIZATION

Students in Agriculture may specialize in one of three broad areas of knowledge—Agricultural Science, Agricultural Technology, and Agricultural Business, all within the framework of 132 credits required for the degree Bachelor of Science in Agriculture.

For a Specialization in Agricultural Science at least 12 credits of the 132 total are required in one or more of the areas of the Physical (CY, GY, PS.) and Biological Sciences (BCY, BLY, BTY, EY, PT, AY. 329) and Mathematics (MS), in addition to those required in the University College and those in the Agricultural College curriculum core.

For a program in Agricultural Technology a choice of courses in applied agriculture is planned by the separate departments of the College of Agriculture in areas of the student's special interest.

For Agricultural Business Specialization at least 15 credits of the 132 total required must be completed from the areas of Agricultural Economics (AS) and Business Administration (ATG, ES, FI, MGT, MKG), in addition to those required in the University College and those in the Agricultural College curriculum core, plus a departmental major.

The student is referred to the individual Departmental offerings for requirements for specific specializations. The head of the department in which the student majors (or his appointee) will act as the student's advisor, assist the student in arranging his course of study, and make necessary recommendations to the Dean. The student's courses for each semester are subject to the approval of the Dean and the department head.

It is required that all students graduating in Agriculture take at least 15 credits in five Agricultural departments other than student's major.

The Department of Veterinary Science offers service courses, but no curriculum leading to a degree. Students interested in a degree in this field should consult with the Dean regarding courses which are acceptable substitutes for requirements in certain schools of veterinary medicine.

CREDIT FOR PRACTICAL WORK

By previous arrangement with the head of the department and the Dean, students may, during their course of study, do practical work under competent supervision in any recognized agricultural or related pursuit, and upon returning to the College and rendering a satisfactory written report showing faithful service, will be entitled to one credit for each month of such work. Such credits may not total more than three. Practical work is especially important for students who have no farm experience. Even though they cannot procure employment under such competent supervision as will give college credit, they should secure work along the line in which they are majoring. Faculty members will assist as much as possible in securing such vacation employment.

GRADUATION WITH HONORS

All applicants completing the residence requirements for a degree are eligible for consideration for honors and high honors. In computing honor point averages the work accepted in the Upper Division, or its equivalent, will be counted.

To graduate with honors a student must have an honor point average of 3.3 or above and be recommended by the Dean.

To graduate with high honors a student must have an honor point average of 3.5 or above, be in the highest 10 percent of his class, and be recommended by the head of the department and by the Dean.

GRADUATE TRAINING IN AGRICULTURE

The College of Agriculture offers four advanced degrees: Master of Agriculture (Non-thesis), Master of Science in Agriculture, Master of Science and Doctor of Philosophy.

Students contemplating graduate study should consult with their counselor as early as possible to insure proper program planning.

Admission to graduate study is normally limited to those students who have maintained at least a 2.75 grade-point average in their upper division work and 3.0 in their

major subject. For majors in general agriculture, the minimum is 2.85. Also, a satisfactory score on the Graduate Record Examination is required.

CURRICULA

AGRICULTURAL ECONOMICS

Three curricula are offered by the Department of Agricultural Economics. The curriculum selected by the student will depend upon the nature of his interest in the field. Students should consult the head of the department or the departmental counselor for guidance in making their choice of a curriculum and for approval of electives.

CURRICULUM I — AGRICULTURAL ECONOMICS

This curriculum is designed for those students interested primarily in training as professional agricultural economists or in preparing for graduate study.

Requirements in College of Agriculture Curriculum Core — 20 Credits

MS. 325 — Advanced General Mathematics (or equivalent)	3
ES. 201 — Basic Economics	3
ES. 407 — Economic Principles and Problems	3
Other Core Requirements (See Page ....)	11

Departmental Requirements — 20 Credits

AS. 306—Farm Management	3	AS. 412—Land Economics *or*	
AS. 308—Marketing	3	AS. 413—Agricultural Policy	3
AS. 310—Agricultural Statistics	3	Electives in Agr. Economics	5
AS. 405—Agricultural Prices	3		

Free and Approved Electives* 28

*The following are suggested electives: EH 356, ES. 325, ES. 208, ES. 409, MGT. 401, MS. 327, MS. 353, FI. 326, SY. 201, PSY. 201.

CURRICULUM II — AGRICULTURAL BUSINESS MANAGEMENT

This curriculum is designed for those students interested in administrative and service aspects of agriculture or related businesses.

Requirements in College of Agriculture Curriculum Core — 20 Credits
(Same as for Curriculum I — Agricultural Economics)

Departmental Requirements — 15 Credits		*Other Requirements and Electives — 33 Credits*	
AS. 306—Farm Management	3		
AS. 308—Marketing	3		
AS. 310—Agricultural Statistics	3	AS. 303—Farm Records *or*	
AS. 405—Agricultural Prices	3	ATG. 211—Elementary Accounting	3
AS. 409—Cooperative Marketing *or*		ES. 325—Public Financial Policy	3
AS. 413—Agricultural Policy	3	Free and Approved Electives*	27

*The following are suggested electives: AS. 311, MGT. 401, FI. 326, MGT. 271, MGT. 372, SY. 201, MS. 308, PSY. 201, MKG. 233, ATG. 212.

CURRICULUM III — CO-MAJOR WITH OTHER DEPARTMENTS

Students majoring in other departments who feel the need for a better understanding of the economics of agriculture and the relationship of agriculture to the general economy can also take a Co-Major in Agricultural Economics. The curriculum for such Co-Majors includes 15 semester hours of required courses in Agricultural Economics, 3 elective hours in Agricultural Economics and 30 hours to meet the requirements of other participating departments and for electives. Elective courses will be selected to *fit the needs and interests of the student.*

Requirements in College of Agriculture Curriculum Core — 20 Credits

Departmental Requirements — 12 Credits

AS. 306—Farm Management 3
AS. 308—Marketing 3
AS. 310—Agricultural Statistics (or equivalent) 3
AS. 405—Agricultural Prices 3

Other Requirements and Electives 36 Credits

ES. 201—Basic Economics* 3
Free and Approved Electives** 33

* ES. 201 can be elected by the student to meet the social science requirement in curriculum core requirements of the College of Agriculture.

** Students taking a Co-Major in Agricultural Economics and graduating in some other college will not be required to meet the curriculum core requirements of the College of Agriculture nor will they be required to take courses in other departments of the College of Agriculture.

AGRICULTURAL EDUCATION

The curriculum in Agricultural Education is a combination of technical agriculture and professional education courses. Students majoring in this department must take the required courses in Education for certification, and also fulfill requirements for an *Agricultural Technology* specialization. Fifty credits must be completed in technical agriculture during the four year program in order to meet requirements of the State Plan for Vocational Education.

Requirements in the College of Agriculture Curriculum Core — 20 Credits

SCH. 201—Effective Speaking or equivalent 3
PS. 109-110—Elements of Physics or equivalent 4
CY. 218—General Chemistry & Qualitative Analysis or equivalent 4
Substitutions permitted (See page ....)* 9

Departmental Requirements — 22 Credits

EDF. 245—Human Growth & Development 3
EDV. 303—General Methods in Ag. .. 3
EDS. 305—Secondary Schools Today .. 3
EDV. 306—Vocational Education 3
EDV. 409—Supervised Teaching in Ag. . 3
EDV. 410—Supervised Teaching in Ag. . 3
EDV. 411—Adult Education in Ag. 2
EDV. 412—Course Organization in Ag. 2

Other Requirements & Electives — 26 Credits

AL. 209—General Animal Husbandry.. 3
AS. 306—Farm Management 3
AG. 303—Farm Shop 3
SLS. 310—Soils 4
EY. 203—Economic Entomology 3
OH. 329—Landscape Gardening 3
Free and Approved Electives 7

* See Head of Department for appropriate courses.

AGRICULTURAL ENGINEERING

Bachelor of Agricultural Engineering

The curriculum in agricultural engineering is offered cooperatively by the College of Agriculture and the College of Engineering. This program gives students basic training in engineering with additional courses in agriculture, agricultural engineering, and other fields as preparation for careers involving the application of engineering science in agriculture. Students wishing to take this curriculum will register in the College of Engineering. See College of Engineering for curriculum.

Mechanized Agriculture

The curriculum in mechanized agriculture provides major work in agriculture with special attention being given to the function and management of machines, structures, and mechanical operations and processes as used in modern agriculture. Students electing this program are prepared for work involving sales, service, and management as related to the mechanization of agricultural production. Students should confer with department counselors in their selection of electives to assure that the total program best meets their educational objectives.

For a major in mechanized agriculture with an agricultural technology specialization the following program is offered.

Requirements in the College of Agriculture Curriculum Core — 20 Credits

SCH 201	Effective Speaking	3	*MS 105	Basic Mathematics	3
JM 420	Agricultural Journalism	3	*PS 201-207	General Physics	4
PSY 206	Psychology Applied to Business	3	CY 218	General Chemistry	4

Requirements in Mechanized Agriculture ..... 17 Credits

AG 301	Agricultural Water Mgt.	3	AG 403	Special Topics	2
AG 303	Farm Shop	3	AG 405	Systems for Processing Agricultural Products	3
AG 306	Farm Machinery	3			
AG 401	Farm Buildings	3			

Other Requirements and Electives ..... 31 Credits

*MS 106	Basic Mathematics	5	PS 202-208	General Physics	4
EY 203	Economic Entomology	3	AS 306	Farm Management	3
SLS 310	Soils	4	**Free and approved electives		12

* These courses should be taken as electives during the first two years.

** Approved electives, within the 132 credits required, include the following courses: AL 209, MKG 233, MGT 271, MGT 401, and FC 341 or VC 212.

AGRONOMY

Students in Agronomy receive scientific and technical training in field and forage crop production, genetics, plant breeding, weed control, and experimental methods. Also, Agricultural Extension and General Agriculture are areas of training offered in the Department of Agronomy.

I. For a Major in Agronomy with an Agricultural Science Specialization, the following program is offered:

Requirements in Agricultural College Curriculum Core — 20 Credits

SCH. 201	Effective Speaking, or equivalent	3
EH. 255	Business Communications, or equivalent	3
AXT. 301	Rural Leadership, or equivalent	3
MS. 325	Advanced General Mathematics, or equivalent	3
PS. 109-110	Elements of Physics, or equivalent	4
CY. 218	General Chemistry and Qualitative Analysis, or equivalent	4

Departmental Requirements — 15 Credits

AY. 221	General Field Crops	3
AY. 329	Genetics	3
AY. 452	Experimental Methods	3
AY.	Electives in Agronomy	6

Other Requirements and Electives — 33 Credits

BTY. 211	Plant Physiology	3
PT. 321	Plant Pathology	3
EY. 203	Economic Entomology	3
SLS. 310	Soils	4
	Free and Approved Electives	20

II. For a Major in Agronomy with an Agricultural Technology Specialization, the same basic program as for Agricultural Science above is offered. Free and Approved Electives are selected primarily an basis of student's career interests.

III. For a Major in Agronomy with an Agricultural Business Specialization, the same basic program as for Agricultural Science above is offered. To meet additional requirements in this specialization, the following courses are suggested: AS. 306, 308, 405, and one 3-hour elective in Agricultural Economics; plus a 3-hour course elected from Business Administration (ATG, ES, FI, MGT, MKG).

IV. For programs in Agricultural Extension and General Agriculture, the student should consult the Head of Agronomy Department.

ANIMAL SCIENCE

The curricula in Animal Science give fundamental training in the various phases of the production of beef cattle, swine, horses and sheep. Special consideration is given to meat products, the packing house industry, and the grading and marketing of meat and meat producing animals. Training is also given for those contemplating going into the feed business. Students in Animal Science can specialize in three areas — Science,

Technology and Business. It is highly recommended that any student who is interested in Animal Science come to the Department office for advice on electives to take in order to properly prepare himself for various job possibilities.

I. For a major in Animal Science with an Agricultural Science specialization, the following program is offered:

Requirements in Agricultural College Curriculum Core — 20 Credits

SCH	201 Effective Speaking	3
EH	255 Business Communications	3
AS	306 Farm Management	3
MS	325 Advanced General Math or equivalent	3
PS	109-110 Elements of Physics	4
*CY	218 General Chemistry and Qualitative Analysis	4

Departmental Requirements — 23 Credits

AL	312 Feeds and Feeding	4
AL	321 Animal Fertility	2
AL	322 Animal Breeding	3
AL	411 Beef Production	3
AL	413 Swine Production	3
AL	415 Meats	4
AL	421 Seminar	1
AL	423 Livestock and Meat Evaluation	3

Other Requirements and Electives — 25 Credits

CY	302 Organic Chemistry	4
BCY	305-307 Bacteriology	4
AY	329 Genetics	3
AY	436 Pastures	3
SLS	310 Soils	4
**Free and Approved Electives		7

* Recommend that this course be taken during freshman and sophomore year.

** It is recommended that AY 452 and MS 327 be taken if possible in addition to the other requirements.

II. For a Major in Animal Science with an Agricultural Technology specialization, the requirements for the Agricultural Curriculum Core and Departmental requirements will be the same as for the basic Agricultural Science program offered above. Following are the other requirements and electives:

Other Requirements and Electives ..... *25 Credits**

AY	329 Genetics	3
SLS	310 Soils	4
BCY	305-307 Basic Introductory Bacteriology	4
AY	436 Pastures	3
VY	401 Farm Sanitation and Disease Prevention	3
Free and Approved Electives		8

*It is recommended that EY 203 be taken if possible in addition to the other requirements.

III. For a Major in Animal Science with an Agricultural Business Specialization, the requirements for the Agricultural Curriculum Core and Departmental requirements will be the same as for the basic Agricultural Science program offered above. This curriculum will meet the requirement for a Co-Major with Agricultural Economics. Following are the other requirements and electives.

Other Requirements and Electives ..... *25 Credits**

AY	329 Genetics	3
AS	310 Agricultural Statistics	3
AS	303 Farm Records	3
AY	436 Pastures	3
AS	405 Agricultural Prices	3
AS	308 Marketing	3
Free and Approved Electives		7

*It is recommended that SLS 310 be taken if possible in addition to the other requirements.

BACTERIOLOGY

The curriculum in bacteriology is designed to give students fundamental training in the field of microbiology, particularly emphasizing the bacteria, but including the viruses, rickettsiae, yeasts, and molds. It provides basic grounding for those wishing to pursue graduate work. The departmental major may lead to a degree in either the College of Agriculture or the College of Arts and Sciences. In Agriculture, the major in Bacteriology will meet the College requirements for specialization in Agricultural Science.

All interested students should consult a departmental advisor about specific courses as early in the freshman or sophomore year as possible. The following prerequisites to upper division courses should be completed prior to entering the upper division: CY. 218, CY. 301, MS. 325, and 1 semester of a foreign language. These courses may be taken in place of C-42 and the approved electives listed in the lower division agriculture curriculum; equivalent elective credits will be available in the upper division curriculum (see below).

For a Major in Bacteriology, in either Arts and Sciences or in the Agricultural Science Specialization, the following minimum program is offered:

Requirements in Arts and Sciences or Agricultural Core

Arts and Sciences required courses	28 credits
Agricultural Core required courses	20 credits

Departmental Requirements

BCY. 305—Basic Introductory Bacteriology	3
BCY. 306—Basic Bacteriology Laboratory	2
BCY. 509—Bacterial Pathogens and Basic Immunology	6
BCY. 513—Microbial Physiology	4
	15

Other Requirements and Electives

Required courses	
Arts and Sciences majors	8
Agriculture majors	12
Free and approved electives	
Arts and Sciences majors	13
Agriculture majors	21
	21 or 33

BOTANY

The curriculum in the Department of Botany is designed for students both in Agriculture and in Arts and Sciences and leads to a Bachelor of Science degree in either College. It emphasizes training in basic plant science which will prepare the student interested in advanced work in botany and other biological sciences, as well as the student interested in applied or technical fields.

While in the University College students who plan to major in botany are advised to take BLY 181, BTY 217, a year of chemistry, a year of mathematics, and a semester of physics. Those students planning a degree in Arts and Sciences should in addition begin a foreign language.

For students in the College of Agriculture the Department of Botany offers only the Agricultural Science area of specialization.

Requirements in College of Arts and Sciences or College of Agriculture

Core Requirements* — 20 credits

FH 201-202 or GN 201-202 French or German**	6
or	
SCH 201—Effective Speaking or equivalent and EH 356—Report Writing or equivalent	6
CY 218—General Chemistry and Qualitative Analysis	4
MS 325—Advanced General Mathematics or equivalent	3
PS 201-207—General Physics or PS 109-110—Elements of Physics or equivalent	4
PSY 201—General Psychology or ES 201—Basic Economics or	
SY 201—Sociological Foundations of Modern Life	3

* In the College of Agriculture.

** Students in the College of Arts and Sciences.

Departmental Requirements ....16 Credits

BTY 217	General Botany	4
BTY 404	Experimental Botany	4
BTY 405	Descriptive Botany	4
BTY	Electives in Botany	4

Other Requirements and Electives .....32 Credits

AY 329	or BLY 325 Genetics	3-4
SLS 310	Soils	4
PT 321	Plant Pathology	3
BCY 300	Bacteriology	3
CY 301	or CY 362-363 Organic Chemistry	4-5
	Free and Approved Electives*	13-15

* Students in the College of Arts and Sciences must elect 12 credits of course work outside the field of the major; see College requirements. Additional electives should be selected with the advice of the Departmental Advisor.

DAIRY SCIENCE

There are two divisions of the department offering separate curricula, I-Dairy Husbandry and II-Dairy Manufacturing. Students in each of these divisions have a choice of areas of specialization. Students should consult the head of the department for approval of the program of study in which they are interested.

Requirements in Agricultural Curriculum Core for all students in the Department of Dairy Science — 20 credits

SCH. 201	Effective Speaking or equivalent	3
EH. 255	Business Communications or equivalent	3
ES. 201	Basic Economics or equivalent	3
MS. 325	Advanced General Mathematics or equivalent	3
PS. 109-110	Elements of Physics or equivalent	4
CY. 218	General Chemistry and Qualitative Analysis or equivalent	4

I-A Dairy Husbandry — Agricultural Science Specialization

Departmental Requirements — 18 credits

*DY 211	Introduction to Dairy Science	3
DY 311	Dairy Cattle Management	3
DY 314	Milk Production	3
DY 421	Seminar	1
DY 422	Physiology of Lactation	2
DY 423	Applied Dairy Microbiology	3
DY 424	Breeds and Breeding of Dairy Cattle	3

Other Requirements and Electives — 30 credits

AL 321	Animal Fertility	2
BCY 305	Basic Introductory Bacteriology	3
BCY 307	Introductory Bacteriology Laboratory	1
AY 329	Genetics	3
AL 427	Elementary Nutrition	3
AL 312	Feeds and Feeding	4
SLS 310	Soils	4
VY 301	Anatomy and Physiology	3
	Free and Approved Electives	7

I-B Dairy Husbandry — Agricultural Technology Specialization

Departmental Requirements — 18 credits

*DY 211	Introduction to Dairy Science	3
DY 311	Dairy Cattle Management	3
DY 314	Milk Production	3
DY 421	Seminar	1
DY 422	Physiology of Lactation	2
DY 423	Applied Dairy Bacteriology	3
DY 424	Breeds and Breeding of Dairy Cattle	3

Other Requirements and Electives — 30 credits

VY 301	Anatomy and Physiology	3
AY 329	Genetics	3
AY 426	Pastures	3
SLS 310	Soils	4
AS 306	Farm Management	3
AL 312	Feeds and Feeding	4
AL 427	Elementary Nutrition	3
	Free and Approved Electives	7

*It is recommended that this course be taken while the student is in University College.

II-A Dairy Manufacturing — Agricultural Science Specialization

Departmental Requirements — 17 credits

*DY 211	Introduction to Dairy Science	3
DY 310	Dairy Products Processing	4
DY 312	Technical Control of Dairy Products	3
DY 416	Dairy Technology	3
DY 421	Seminar	1
DY 423	Advanced Dairy Microbiology	3

Other Requirements and Electives — 31 credits

CY 331	Introductory Quantative Analysis	4
BCY 305	Basic Introductory Bacteriology	3
BCY 307	Bacteriology Laboratory	1
BCY 410	Applied Microbiology	3
FT 301	Food Technology	3
FT 302	Food Technology	3
AG 405	Processing Agricultural Products	3
	Free and Approved Electives	11

II-B Dairy Manufacturing — Agricultural Technology

Departmental Requirements — 22 credits

*DY 211	Introduction to Dairy Science	3
DY 318	Judging Dairy Products	2
DY 310	Dairy Products Processing	4
DY 312	Technical Control of Dairy Products	3
DY 311	Dairy Cattle Management	3
DY 416	Dairy Technology	3
DY 421	Seminar	1
DY 423	Advanced Dairy Microbiology	3

Other Requirements and Electives — 26 credits

CY 331	Introductory Quantative Analysis	4
BCY 300	Bacteria in Everyday Life	3
EY 203	Economic Entomology	3
FT 301	Food Technology	3
AG 405	Processing Agricultural Products	3
	Free and Approved Electives	10

II-C Dairy Manufacturing—Agricultural Business

To meet the requirements of this specialization the same basic program as for Agritural Technology is required, except DY 312, DY 416 and CY 331. To meet the additional requirements at least 15 hours must be from the areas of Agricultural Economics or Business Administration.

*It is recommended that this course be taken while the student is in University College.

ENTOMOLOGY

Entomology is a biological science dealing with insect life. These animals impinge upon all human activities. Students may receive training in the following: industrial entomology; structural pest control; horticultural entomology; forest entomology; medical and public health entomology; veterinary entomology; and plant quarantine, inspection and control. The student may obtain proper departmental guidance as well as copies of specialized curricula at the Department of Entomology.

Entomology—Science Curriculum

The science curriculum is designed to give the student broad basic training in the biological sciences, and thereby prepare him for advanced degree studies, especially in the academic phases of the science.

Requirements in Agricultural College Curriculum Core—20 Credits

FH. 133	First year French, or equivalent	3
SCH. 201	Effective Speaking, or equivalent	3
HY. 346	Cultural History of United States, or equivalent	3
MS. 325	Advanced General Mathematics, or equivalent	3
PS. 109-110	Elements of Physics, or equivalent	4
CY. 218	General Chemistry and Qualitative Analysis, or equivalent	4

Departmental Requirements 23 credits

*EY. 203—Economic Entomology, or
EY. 307—General Entomology 3
EY. 311-312-313-314—Seminar 2
EY. 408—Insect Morphology and Physiology 4
EY. 460—Insect Identification 3
EY. 470—The Experimental Methods .. 2
Entomology Electives 9

Other Requirements and Electives 25 credits

Electives in Agriculture 9
Electives in Biological Sciences 9
Free and Approved Electives 7

*It is recommended that this course be taken while the student is in the University College.

*Entomology—Business Curriculum**

The business curriculum has flexibility, thereby permitting students to train for industrial entomology or structural pest control.

Requirements in Agricultural College Curriculum Core—20 Credits

EH. 255—Business Communications, or equivalent 3
SCH. 201—Effective Speaking, or equivalent 3
PSY. 201—General Psychology, or equivalent 3
MS. 325—Advanced General Mathematics, or equivalent 3
PS. 109-110—Elements of Physics, or equivalent 4
Approved electives in Biological, Physical, or Social Sciences 4

Departmental Requirements 16 credits

**EY. 203—Economic Entomology, or
EY. 307—General Entomology 3
EY. 311-312-313-314—Seminar 2
EY. 405—Insect Control 3
EY. 408—Insect Morphology and Physiology 4
EY. 460—Insect Identification 3
Entomology Electives 1

Other Requirements and Electives 32 credits

AS. 308—Marketing 3
AS. 311—Rural Law 3
ATG. 211-212—Elementary Accounting. 6
MGT. 271—Principles of Management .. 3
AL. 209—General Animal Husbandry. 3
SLS. 310—Soils 4
AY. 221—Gen. Field Crops 3
Free Electives 7

*Students majoring in Structural Pest Control should make the following substitutions: MGT. 401 for AS. 311; MKG. 231 for AS. 308; OH. 319 for FC. 201; OH. 362 for AL. 209; and AY. 442 for AY. 221.

**It is recommended that this course be taken while the student is in the University College.

Entomology—Technical Curriculum

The technology curriculum in entomology is designed to give the student a strong training in economic entomology together with the necessary basic training in related aspects of agriculture.

Requirements in Agricultural College Curriculum Core—20 Credits

CY. 218—General Chemistry and Qualitative Analysis—4.
Other requirements same as Entomology—Business Curriculum.

Departmental Requirements 21 credits

*EY. 203—Economic Entomology, or
EY. 307—General Entomology 3
EY. 311-312-313-314—Seminar 2
EY. 303—Introductory Economic Nematology 3
EY. 405—Insect Control 3
EY. 408—Insect Morphology and Physiology 4
EY. 432—Florida Fruit and Vegetable Insects 3
EY. 460—Insect Identification 3

Electives 27 credits

Electives in Agriculture
Recommended Electives: — AG. 306, AL. 209, AY. 221, DY. 211, PY. 201, FC. 201, FC. 335, OH. 203, FT. 301, PT. 321, SLS. 310, VC. 212, VY. 401.

*It is recommended that this course be taken while the student is in the University College.

FOOD TECHNOLOGY

Food Technology is the application of the basic sciences and engineering to the preparation, processing, packaging, storage, distribution and utilization of food products. The emphasis in the curriculum is on the scientific aspects of foods from the raw materials to the finished products.

Students majoring in Food Technology will specialize in the area of Agricultural Science.

Requirements in College of Agriculture Curriculum Core—20 Credits

*CY 218—General Chemistry & Qualitative Analysis 4
*MS 325—Advanced General Mathematics, or equivalent 3
*PS 201-207— General Physics 4
Other core requirements 9

Departmental Requirements—16 Credits

FT 301-302-305-306 Theory & Technology of Food Preservation 8
FT 401—Food Analysis 4
FT 402-406—Food Chemistry 4

Other Requirements—32 Credits

CY 301-302—Organic Chemistry 8
CY 331—Quantitative Analysis 4
BCY 305-307—Introductory Bacteriology. 4
CY 415—Biochemistry 3
AY 452—Experimental Methods 3
AG 405—Systems for Processing Agricultural Products 3
**Free and approved electives 7

*It is recommended that these courses and FT 201, "Man's Food", be taken while the students is in the University College.

**Approved electives in order to meet the curriculum requirements of the Institute of Food Technologists: CY 317, BCY 410, MS 327, PS 202-208.

FRUIT CROPS

Three curricula are offered in the Department of Fruit Crops to fit the needs of students planning to specialize in this general field. Opportunity is offered in all curricula for electing courses which will further strengthen the training in related fields or in other fields of special interest. It is important that prospective majors consult as early in their University career as possible with department counselors.

I. Fruit Crops Major with Agricultural Technology Specialization (Citrus or Tropical Fruit Production)

This curriculum combines courses in production of citrus fruits, firmly based on training in botany, soils, entomology, and plant pathology, with courses in economics and business management to enable graduates to assume managerial responsibilities.

Requirements in Agricultural College Curriculum Core—20 credits

Sch 201—Effective Speaking 3
EH 255—Business Communications 3
As 303—Farm Records 3
*CY 218—General Chemistry and Qualitative Analysis 4
Ms 325—Advanced General Mathematics 3
*PS 109-110—Elements of Physics 4

Departmental Requirements—22 credits

*FC 201—Principles of Horticulture.... 3
FC 335—Introduction to Citrus Culture. 2
FC 336—Citrus Nursery and Young Grove 3
FC 403—Physiology of Fruit Production 3
FC 437—Citrus Maturity and Packinghouse Procedure 3
FC 439-440—Citriculture 8

Students wishing to specialize in tropical fruit culture should take the Citrus Production curriculum but substitute FC 341, 423 and 424 for FC 336, 437, 439 and 440.

Other Requirements and Electives—26 credits

Bty 211—Elementary Plant Physiology.. 3
Pt 321—Plant Pathology 3
Sls 310—Soils 4
Ey 203—Economic Entomology 3
Cy 362-363—Organic Chemistry 5
Free and approved electives 8

*It is recommended that these courses be taken while the student is in the University College.

Suggested electives: Ey 433, Pt 428, As 311, As 408, Ag 301, Ay 452, Sls 402.

II. Fruit Crops Major with Agricultural Business Specialization (Fruit Packinghouse Management and Marketing—offered in cooperation with Department of Agricultural Economics)

This curriculum is designed for students who wish to enter the fields of marketing fresh fruit and/or managing packinghouses which handle fresh fruit.

Requirements in Agricultural College Curriculum Core—20 credits

Sch 201—Effective Speaking 3
Eh 255—Business Communications 3
As 303—Farm Records 3
*Cy 218—General Chemistry and Qualitative Analysis 4
Ms 325—Advanced General Mathematics 3
*Ps 109-110—Elements of Physics 4

Departmental Requirements—18 credits

*FC 201—Principles of Horticulture ... 3
FC 341—Citrus Growing 3
FC 403—Physiology of Fruit Production 3
FC 423—Major Tropical Fruits 3
FC 437—Citrus Maturity and Packinghouse Procedure 3
FC 438—Citrus Packinghouse Management 3

Other Requirements and Electives—30 credits

As 408—Marketing Fruits and Vegetables 3
As 409—Cooperative Marketing 3
As 414—Terminal Markets 1
Mgt 401—Business Law 3
Ey 203—Economic Entomology 3
Bty 211—Elementary Plant Physiology. 3
Pt 321—Plant Pathology 3
Sls 310—Soils 4
Free and approved electives 7

*It is recommended that these courses be taken while the student is in the University College.

A co-major in Agricultural Economics can be obtained by selecting suitable electives.

III. Fruit Crops Major with Agricultural Science Specialization (Fruit Crops Research)

This curriculum is designed to give the student an adequate background of basic sciences to follow undergraduate training in fruit production with graduate study for research or teaching in this field.

Requirements in Agricultural College Curriculum Core—21 credits

Sch 201—Effective Speaking 3
Eh 255—Business Communications 3
As 311—Rural Law 3
*Ms 105—Basic Mathematics 4
Ps 201 & 207—General Physics 4
*Cy 218—General Chemistry and Qualitative Analysis 4

Departmental Requirements—19 credits

*FC 201—Principles of Horticulture ... 3
FC 335—Introduction to Citrus Culture 2
FC 336—Citrus Nursery and Young Grove 3
FC 403—Physiology of Fruit Production. 3
FC 439-440—Citriculture 8

Other Requirements and Electives—28 credits

Bty 211—Elementary Plant Physiology 3
Cy 301—Organic Chemistry 4
Sls 310—Soils 4
Ey 203—Economic Entomology 3
Pt 321—Plant Pathology 3
Cy 331—Quantitative Analysis 4
Free and approved electives 7

*It is recommended that these courses be taken while the student is in the University College.

Suggested electives: Atg 211, Ay 329, Ay 452, Bcy 305-307, Bty 280, Bty 432, Cy 302, Cy 317, Ms 106, Ps 202-208, Sls 402.

General Agriculture — Agricultural Extension

Programs in General Agriculture and Agricultural Extension are designed to give broad basic training in agriculture and methods of advancing better agricultural parctices. The subject matter touches many fields of Agricultural Science and practice.

For this training students will follow the Agricultural Technology Specialization in the Department of Agronomy.

ORNAMENTAL HORTICULTURE

The Department of Ornamental Horticulture offers training in two areas of specialization. Students may elect to receive technical or scientific training in the production of flower, foliage, nursery and turf crops: Three months or equivalent of field experience is required before graduation.

I. For a major in Ornamental Horticulture with an Agricultural Science specialization, the following program is offered.

Requirements in Agricultural College Curriculum Core—20 credits

SCH	201—Effective Speaking, or equivalent	3
EH	255—Business Communications, or equivalent	3
AS	308—Marketing or equivalent	3
MS	325—Advanced General Mathematics, or equivalent	3
PS	109-110—Elements of Physics, or equivalent	4
CY	218—General Chemistry and Qual. Analysis, or equivalent	4

Departmental Requirements — 20 credits

OH	331—Plant Materials	3
OH	362—Turf Management	3
OH	403—Seminar	1
OH	441—Floriculture	3
OH	499—Special Problems	3
OH	—Approved Electives	7

Other Requirements and Electives — 28 credits

BTY	211—Plant Physiology	3
SLS	310—Soils	4
EY	203—Entomology	3
PT	321—Plant Pathology	3
AG or	301—Agricultural Water Management	
AG	302—Farm Power	3
CY	362-363—Organic Chemistry	5
Free and Approved Electives		7

II. For a major in Ornamental Horticulture with an Agricultural Technology specialization, the curriculum will be the same as for Agricultural Science except that Free and Approved Electives are selected primarily on the basis of student's career interests.

PLANT PATHOLOGY

The curriculum in Plant Pathology is arranged to acquaint students with diagnostic symptoms, the causal agents of disease, factors affecting disease development, and control of plant diseases caused by environmental factors, parasitic plants, nematodes, viruses, bacteria, and fungi. The curriculum is flexible, permitting a scientific or a technical education.

I. For a major in Plant Pathology with specialization in Agricultural Science, the following program is offered.

Requirements, Agricultural College Curriculum Core (page)—20 credits

Communications—Approved courses in English, speech, journalism, modern foreign languages	6 credits
Social Sciences—Approved courses in history, philosophy, political science, psychology, sociology	3 credits
Mathematics—Approved courses in mathematics	3 credits
Physics—Approved courses in general physics	4 credits
Chemistry—Approved general chemistry and qualitative analysis	4 credits

Departmental Requirements — 15 credits

PT 321—Plant Pathology 3
PT 434—Mycology 3
PT 442—Principles of Plant Disease Control 3
Electives in Plant Pathology or related areas* 6

Other Requirements and Electives — 33 credits

BCY 305-307—Basic Bacteriology 4
BTY 211—Plant Physiology 3
EY 307—General Entomology 3
SLS 310—Soils 4
AY 329—Genetics 3
Electives* 16

*Students should elect courses agreed upon with faculty advisers.

II. For a major in Plant Pathology with an Agricultural Technology specialization, the required courses are the same as those for the Agricultural Science specialization.

POULTRY SCIENCE

The curricula in Poultry Science are designed to give fundamental training in the various phases of poultry production. Emphasis is placed upon nutrition, genetics, physiology, marketing, processing and management. The curricula include three areas of specialization: poultry science, poultry business and poultry technology. Each curriculum may be adapted to the needs of the individual student by choosing appropriate technical electives.

CURRICULUM I — POULTRY TECHNOLOGY

This program of study enables the student majoring in poultry to obtain broad training in the applied phases of poultry production.

Requirements in College of Agriculture Curriculum Core—20 Credits

MS. 325—Advanced General Mathematics or equivalent 3
PS. 109-110—Elements of Physics and Lab or equivalent 4
CY. 218—General Chemistry and Qualitative Analysis or equivalent 4
Other Core Requirements 9

Departmental Requirements — 20 Credits

PY. 201—Poultry Production 3
PY. 312—Incubation, Brooding, Rearing. 3
PY. 317—Marketing Poultry Products... 3
PY. 414—Poultry Nutrition 2
PY. 415—Poultry Management 3
PY. 427—Poultry Breeding 2
Poultry Electives 4

Other Requirements and Electives 28 Credits

AL. 312—Feeds and Feeding 4
AY. 329—Genetics 3
VY. 402—Poultry Diseases 2
BCY. 300—Bacteriology 3
Approved Electives 16

CURRICULUM II — POULTRY BUSINESS

This program of study emphasizes a combination of agriculture and business through the selection of appropriate business electives.

Requirements in College of Agriculture Curriculum Core—20 Credits

MS. 325—Advanced General Mathematics or equivalent 3
PS. 109-110—Elements of Physics and Lab or equivalent 4
CY. 218—General Chemistry and Qualitative Analysis or equivalent 4
Other Core Requirements 9

Departmental Requirments — 15 Credits

PY. 201—Poultry Production 3
PY. 317—Marketing Poultry Products.. 3
PY. 415-416—Poultry Management 6
Electives in Poultry 3

Other Requirements and Electives —33 Credits

AY. 329—Genetics 3
AL. 312—Feeds and Feeding 4
AS. 306—Farm Management 3
Electives in AS., JM., ATG., MTG., MS..12
Approved Electives 11

CURRICULUM III — POULTRY SCIENCE

This program emphasizes the basic sciences. By careful selection of elective courses the student can complete the basic requirements for starting graduate work in Poultry Nutrition, Genetics and Physiology.

Requirements in College of Agriculture Curriculum Core—20 Credits

MS. 325—Advanced General Mathematics or equivalent 3
PS. 201-202—General Physics or equivalent 6
CY. 218—General Chemistry and Qualitative Analysis or equivalent 4
Other Core Requirements 7

Departmental Requirements — 16 Credits

PY. 201—Poultry Production 3
PY. 317—Marketing Poultry Products .. 3
PY. 319—Grading & Selecting Poultry . 1
PY. 414—Poultry Nutrition 2
PY. 427—Poultry Breeding 2
Poultry Electives 5

Other Requirements and Electives — 32 Credits

BCY. 300—Bacteriology 4
AL. 312—Feeds and Feeding 4
AY. 329—Genetics 3
VY. 402—Poultry Diseases 2
EY. 203—Entomology 5
Electives in Physical and Biological Sciences and Mathematics 5
Approved Electives 11

SOILS

The Department of Soils offers three curricula, designed to meet the specific needs of the individual. Students should consult the head of the department or the departmental counselor for approval of electives in the field of specialization.

AGRICULTURAL SCIENCE

This program of study emphasizes the basic sciences. Students can qualify for graduate study and research in Soil Fertility, Soil Chemistry, Soil Microbiology, Soil Physics, or Soil Genesis and Classification by careful selection of elective courses.

Requirements in College of Agriculture Curriculum Core — 20 Credits

PS. 201-207—General Physics & Lab 4
CY. 218—Gen. Chemistry & Qual. Analysis 4
Other Core Requirements 12

Departmental Requirements — 15 Credits

Sls. 310—Soils 4
Sls. 402—Advanced Soil Fertility 3
Sls. 401—Soil Morphology & Classification 3
Electives in Soils 5

Other Requirements & Electives — 33 Credits

GY. 203—Elements of Physical Geology 3
BCY. 300—Bacteria in Everyday Life .. 3
BTY. 211—Elementary Plant Physiology 3
MS. 327—Advanced General Mathematics 3
PS. 202-208—General Physics & Lab .. 4
CY. 331—Introductory Quant. Analysis 4
Approved electives in Agriculture 6
Free and Approved Electives* 7

*Suggested electives in preparation for graduate study in specific major fields of Soil Science:

Soil Fertility: BTY. 280, EY. 203, PT. 321, Cy 362-363.
Soil Chemistry: CY. 317 or CY. 401, GY. 308, CY. 362-363.
Soil Microbiology: EY. 303, PT.321, BCY: 305, 306 or 307 instead of BCY 300, CY. 362, CY. 363.
Soil Physics: MS. 353; PS. 205-206 instead of PS. 201-202.
Soil Genesis & Classification: BTY. 280, BTY. 401, GPY. 330, GY. 308, GY. 318.

AGRICULTURAL TECHNOLOGY

This program of study enables the student majoring in soils to obtain broad training in related phases of Agriculture.

Requirements in College of Agriculture Curriculum Core — 20 Credits

AS. 306—Farm Management 3
CY. 218—Gen. Chemistry & Qual. Analysis 4
Other Core Requirements 13

Departmental Requirements — 20 Credits

Sls. 310—Soils 4
Sls. 402—Advanced Soil Fertility 3
Sls. 404—Soil Surveying 4
Sls. 405—Soil Microbiology 3
Sls. 406—Soils & Fertilizers 3
Electives in Soils 3

Other Requirements & Electives — 28 Credits

AG. 301—Agricultural Water Management 3
AY. 324—Forage & Cover Crops 3
FC. 341—Citrus Growing 3
BCY. 300—Bacteria in Everyday Life.. 3
Free and Approved Electives* 16

Suggested electives: AL 209, AY. 221, CL. 223, CY. 331, EH. 356, ES. 201, FC. 201, GPY. 330, GY. 203, PT. 321, SLS. 311, SLS. 400, SLS. 408, SLS. 420.

AGRICULTURAL BUSINESS

This program provides broad general training in the business aspects of Agriculture. It is sufficiently flexible that students have a wide choice of electives.

Requirements in College of Agriculture Curriculum Core — 20 Credits

AS. 306—Farm Management 3
MS. 325—Advanced General Mathematics 3
Other Requirements in Core 14

Departmental Requirements — 15 Credits

Sls. 310—Soils 4
Sls. 311—Soil Management 3
Sls. 406—Soils & Fertilizers 3
Electives in Soils 5

Other Requirements and Electives — 33 Credits

EY. 203—Economic Entomology 3
PT. 321—Plant Pathology 3
AS. 308—Marketing 3
Electives—AY. 221, AY. 324, FC. 341, or VC. 212 3
Electives—AL. 209, DY. 221, or PY. 201 3
Electives—From: ES, FI, MGT, AS, ATG, MKG. or MS 9
Free and Approved Electives 9

VEGETABLE CROPS

The curriculum in Vegetable Crops is designed to give the student an adequate foundation of basic sciences which, together with specific courses in the principles of production and marketing of vegetables, will prepare him for primary employment in any phase of the specialized Vegetable Industry. Sufficient elective hours enable students to study in agricultural science or business.

Students planning a major in Vegetable Crops should consult with the Department Head early in their work for individual guidance in the selection of an elective program.

Requirements in College of Agriculture Curriculum Core — 20 Credits

Departmental Requirements — 24 Credits

VC 212—Principles of Vegetable Production* 3
Selected VC Courses 12
Approved Electives in Related Areas** . 9

Other Requirements and Electives — 24 Credits

BTY 211—Elementary Plant Physiology . 3
SLS 310—Soils 4
PT 321—Plant Pathology 3
Free & Approved Electives 14

*Election recommended in University College.

**Approved electives in related areas include the following: AG 301, AS 308, AS 408, AY 329, AY 422, EY 203, EY 303, EY 432, PT 422, SLS 402.

College of Architecture and Fine Arts

GENERAL STATEMENT

The College of Architecture and Fine Arts provides instruction for students who seek professional careers in the Building Arts and the Fine Arts; it offers to other students of the University creative and cultural opportunities in these arts; and it performs appropriate related services for the citizens of Florida. The College has developed from the School of Architecture established in 1925. Its organization now includes—the Division of Building Arts, with Departments of Architecture, Building Construction, and Community Planning, and the Bureau of Architectural and Community Research; the Division of Fine Arts, with Departments of Art and Music; and the University Center of the Arts.

PROGRAMS

Professional Instruction — The College offers professional curricula leading to appropriate undergraduate degrees in:

Architecture
Interior Design
Landscape Architecture
Building Construction
Music
Art Education
Fine Arts (Painting, Printmaking, Sculpture)
History of Art
Crafts
Advertising Design

The College also offers at the graduate level professional programs in Architecture, Art, Building Construction, and Community Planning. Each undergraduate and graduate program stresses thorough mastery of the principles underlying its field and the development of professional skill in their creative application to practice.

Instruction for Majors. — Major programs of study in Art and Music, leading to the degree of Bachelor of Arts, are offered by the departments of this College. Requirements for this degree are described under the College of Arts and Sciences.

General Courses.—The College offers courses open to all students of the University who wish to broaden their cultural background in the arts.

Public Programs.—The College sponsors each year numerous public lectures, concerts, festivals, special conferences, and clinics in which faculty and eminent visiting scholars and practitioners participate. The University Center of the Arts administered by the College, presents public exhibitions of outstanding works in the visual arts, both fine and applied.

Bureau of Architectural and Community Research.—The Bureau was established to conduct and coordinate research in the design, construction, and maintenance of buildings, particularly under conditions existing in Florida, and the design and development of Florida communities. The Bureau provides opportunity for graduate students and faculty members to engage in such research and to cooperate effectively in research with other departments of the University.

LIBRARY FACILITIES

The University Library and the College Library together provide an important working collection of publications and audio-visual materials for undergraduate and graduate studies. These resources include books, leading American and foreign periodicals, color prints, and slides. There is an extensive collection of published and recorded music of all types. Music listening rooms allow convenient use of these materials.

COUNSELING

The counseling program of the College is designed to make available to all students at the Lower and Upper Division and the graduate levels, the services of faculty members highly qualified in their respective professions who can assist in the selection of a field of study, give understanding and sympathetic counsel regarding the student's personal

or academic problems, and advise on the selection of employment after graduation and problems arising in these several fields.

STUDENT AID

Students interested in part-time employment, assistantships, scholarships, fellowships, loans, prizes, and awards are referred to the special bulletin distributed by the Dean of Student Personnel Office, University of Florida, Gainesville, Florida.

PRACTICAL EXPERIENCE

Students are urged to spend their summers in the employ of practicing professionals in their particular field, or in some allied work which will give an insight into the problems of professional practice. Such employment provides an introduction to the methods of actual practice. and enables the student to derive increased benefit from advanced work in school. Students should seek the counsel of their faculty advisor as to the type of practical experience best suited to their individual needs.

FIELD TRIPS

Each year a number of field trips are arranged to give students an opportunity to broaden and extend their educational experience through study of construction projects of unusual interest or of outstanding works of architecture and art. Students frequently combine such studies with attendance at state and national meetings of the professional organizations in their respective fields.

TEACHERS' CERTIFICATES

The College offers courses leading to certification for teaching Art or Music in the public schools in grades 1 through 12 in the State of Florida. Regulations describing certification of teachers are published by the State Department of Education and it is imperative that all students who expect to be certified familiarize themselves with these regulations. Application for certification should be made immediately after graduation, and should be addressed to the State Superintendent of Public Instruction, Tallahassee, Florida.

STUDENT WORK

The College reserves the right to retain student work for the purposes of record, exhibition, or instruction.

STUDENT ORGANIZATIONS

Student organizations take an active part in the educational program of the College. Included in these organizations are the Florida Art Society, the Gargoyle Society, Sigma Lambda Chi, the Students' Contractors and Builders Association, the student chapter of the American Institute of Architects, the Music Educators National Conference student member Chapter No. 257, Kappa Kappa Psi, Tau Beta, and Phi Mu Alpha-Sinfonia. The College encourages and assists students in promoting close relations with professional groups and societies in the several fields.

GRADUATE DEGREES

The Graduate School offers the degrees of Master of Arts in Architecture, Master of Science in Building Construction, Master of Science in Community Planning, and Master of Fine Arts. To meet the needs and goals of each student, graduate programs are prepared individually in consultation with a designated member of the Graduate Faculty of the College of Architecture and Fine Arts. For further information, see The Graduate School Bulletin.

Architecture.—The major may be in architectural design, architectural research, building construction, or structural design of buildings. Holders of the five-year undergraduate

degree in Architecture may normally complete the requirements for the master's degree in one academic year.

Art.—The major is in Fine Arts. Although holders of the Bachelor of Fine Arts degree may technically complete the requirements in one academic year, two years are normally required.

Building Construction.—The major may be in building construction, building research, or structural design of buildings. Holders of the four-year undergraduate degree in Building Construction or its equivalent may normally complete the requirements for the master's degree in one academic year.

Community Planning.—The program in Planning is administered by the Graduate Faculty in Community Planning, an inter-departmental faculty representing the agencies, departments, and colleges of the University concerned with urban and rural planning. The program is described in the section of the catalog entitled The Graduate School. For further information write to the Dean of the College of Architecture and Fine Arts.

UNDERGRADUATE CURRICULA ADMISSION

Admission Requirements.—To be eligible for admission to the College of Architecture and Fine Arts, the student is required to have at least a 2.0 (C) average in all Lower Division courses required for the curriculum he desires to enter. Additionally, he must have at least a 2.0 (C) average in all professional and pre-professional courses within that Lower Division curriculum.

The Committee on Admissions of the College will consider requests for admission from students who do not meet the conditions stated above. However, students whose records in the Lower Division do not indicate that they are qualified to pursue with profit the professional work of the Upper Division will not be admitted to the College.

Transfer Students.—Transfer students who wish to enter the College of Architecture and Fine Arts are referred to the Board of University Examiners in accordance with provisions of the section of this catalog entitled Admissions.

GRADUATION REQUIREMENTS

To be eligible for graduation, the student must present a minimum grade point average of 2.0 (C) for all work attempted in the Upper Division.

Students planning to enter the Graduate School must maintain a 3.0 (B) average in all Upper Division work.

GRADUATION WITH HONORS AND HIGH HONORS

For graduation WITH HONORS, a student must earn an overall honor point average of 3.0 or higher in all course work required for that degree—both Lower Division and Upper Division. In addition, a student must earn an honor point average of 3.2 or higher in all course work accepted for the degree as Upper Division credit.

For graduation WITH HIGH HONORS, a student must, in addition to the minimum 3.0 overall honor point average as stated above, earn an honor point average of 3.5 or higher in all course work accepted for the degree as Upper Division credit and be recommended by the faculty of the department concerned to the Dean. The recommendation is to be based on: (a) honor point average, (b) distribution and quality of subject matter studies, (c) evaluation of the student by his instructors, and (d) other important aspects or outstanding qualities of the student.

In calculating requirements for graduation WITH HONORS and WITH HIGH HONORS, transfer credits will be excluded but the student must earn at this University a minimum of 45 semester hours credit in Upper Division courses required for the appropriate degree. These credits translated to honor points will be averaged as stated above for HONORS and HIGH HONORS.

I. CURRICULUM IN ARCHITECTURE

Leading to the degree of Bachelor of Architecture

J. T. Lendrum, Head; W. Raymond, Advisor, Upper Division; J. J. Sabatella, Advisor, Lower Division.

This curriculum is for students who desire to become architects or to enter some related field in which utility and beauty are combined objectives. The course prepares students to become draftsmen, designers, inspectors, and superintendents of construction, specification writers, teachers or ultimately to become practicing architects or specialists in their chosen fields.

The curriculum is accredited by the National Architectural Accrediting Board, established by the American Institute of Architects, the National Council of Architectural Registration Boards, and the Association of Collegiate Schools of Architecture.

For Freshman and Sophomore programs of study consult section of catalog entitled Lower Division.

THIRD YEAR

First Semester	*Credits*	*Second Semester*	*Credits*
AE. 311, Presentation Methods I	2	AE. 312, Presentation Methods II	2
AE. 331, Intermediate Architectural Design I	3	AE. 332, Intermediate Architectural Design II	3
AE. 341, Materials & Methods of Construction III	3	AE. 342, Materials & Methods of Construction IV	3
AE. 351, Architectural Structures I	3	AE. 352, Architectural Structures II	3
AE. 371, Ancient Architecture	3	AE. 372, Medieval Architecture	3
AE. 381, Survey & Sight Analysis	3	AE. 362, Mechanical Equipment I	3
	17		17

FOURTH YEAR

First Semester	*Credits*	*Second Semester*	*Credits*
AE. 431, Advanced Architectural Design I	5	AE. 432, Advanced Architectural Design II	5
AE. 441, Working Drawings	3	AE. 442, Specifications and Estimating	3
AE. 451, Architectural Structures III	3	AE. 452, Architectural Structures IV	3
AE. 461, Mechanical Equipment II	3	AE. 482, Community Planning	3
AE. 471, Renaissance and Baroque Architecture	3	AE. 472, Modern Architecture	3
	17		17

FIFTH YEAR

First Semester	*Credits*	*Second Semester*	*Credits*
AE. 531, Advanced Architectural Design III	8	AE. 532, Advanced Architectural Design IV	8
AE. 541, Professional Administration	3	AE. 522, Professional Seminar	2
AE. 551, Architectural Structures V	3	Department Electives	4
College Electives*	3	College Electives*	3
	17		17

*Electives shall be chosen from College of Architecture and Fine Arts with the approval of the faculty advisor.

II. CURRICULUM IN INTERIOR DESIGN

Leading to the degree of Bachelor of Design
G. D. Everett, Advisor

This curriculum is for students who desire to become professional interior designers in the domestic, commercial, and institutional fields, or who desire to engage in the merchandising, design, or manufacture of furniture and accessories.

For Freshmen and Sophomore programs of study consult section of catalog entitled Lower Division.

JUNIOR YEAR

First Semester	*Credits*	*Second Semester*	*Credits*
AE. 311, Presentation Methods I	2	AE. 312, Presentation Methods II	2
IR. 331, Intermediate Interior Design I	6	IR. 332, Intermediate Interior Design II	6
IR. 341, Interior Furnishings I	3	IR. 342, Interior Furnishings II	3
IR. 371, History I	3	IR. 372, History II	3
ART 375, Textiles	3	ART 280, Ceramics I	3
	17		17

SENIOR YEAR

First Semester	*Credits*	*Second Semester*	*Credits*
IR. 431—Advanced Interior Design I	8	IR. 432—Advanced Interior Design II	8
AE. 341—Materials and Methods of Construction III	3	IR. 442—Practice of Interior Decorating	3
ES. 201—Basic Economics	3	ATG. 211—Elementary Accounting	3
College Elective*	3	IN. 400—Woodworking	3
	17		17

*Elective shall be chosen from College of Architecture and Fine Arts with the approval of the faculty advisor.

III. CURRICULUM IN LANDSCAPE ARCHITECTURE

Leading to the Degree of Bachelor of Landscape Architecture
H. R. Sebold, Advisor

This curriculum is designed to fit students for work in the arrangement and preservation of land areas for use and beauty. The aim is to prepare graduates for private practice in the field of landscape architecture and for employment as landscape architects in city park departments and in the National Park Service. Also, due to intensive training in site planning, graduates find ready employment in city and regional planning offices.

For Freshman and Sophomore programs of study consult section of catalog entitled Lower Division.

JUNIOR YEAR

First Semester	*Credits*	*Second Semester*	*Credits*
LAE. 301-302-303-304—Projects in Landscape Architecture Group I	12	LAE. 311-312-313-314—Projects in Landscape Architecture, Group 2	12
OH. 331—Woody Plant Materials	3	SLS. 300—Forest Soils	3
CY. 215—Introductory Chemistry	3	Approved Elective	3
	18		18

SENIOR YEAR

First Semester	*Credits*	*Second Semester*	*Credits*
LAE. 401-402-403-404—Projects in Landscape Architecture, Group 3, consisting of 4 three-credit units	12	LAE. 411-412-413-414—Projects in Landscape Architecture, Group 4 consisting of 4 three-credit units	12
AE. 381—Surveying & Site Analysis	3	AE. 482—Community Planning	3
Approved Elective	3	Approved Elective	3
	18		18

IV. CURRICULUM IN BUILDING CONSTRUCTION

Leading to the Degree of Bachelor of Building Construction
H. H. Block, Advisor

This curriculum is for students who are interested in the construction and erection of buildings rather than their architectural design, and who wish to prepare themselves to enter branches of the building industry such as the construction of multi-story buildings, houses, and other structures, contracting, construction superintendency or supervision,

estimating, material production, and material and equipment distribution, service, or maintenance. For the Freshman and Sophomore program of study consult the section of the catalog entitled Lower Division.

Cooperative on-the-job Employment.—A cooperative program for the combination of on-the-job employment and academic education has been requested by various members of the construction industry. Participation in this program was first requested by 13 members of the Florida Lumber and Millwork Association, Incorporated, in May, 1957. This program provides for alternate semesters to be spent by the student in academic studies and in the construction industry, which offers the student an excellent opportunity for coordinating and integrating the practical requirements of the Industry with the professional instruction provided by the Department of Building Construction of the College of Architecture and Fine Arts. The maximum time added to the normal schedule for graduation should be three semesters.

Students may apply for participation in the cooperative program during their last semester in the University College, or after admission to the Upper Division curriculum in Building Construction.

The Department of Building Construction will assist with preliminary arrangements between the employer and student. However, final agreements concerning employment will be the responsibility of the employer and the student. During any and all employment periods the student will be an employee of the cooperating company and will be expected to conform to all company requirements and regulations. The Department of Building Construction does not guarantee to find employment for the students, but all arrangements must be approved by the Department. The students enrolled on the cooperative plan will be arranged in pairs, alternating one at the University and one on the job, and both working during summers when activities in the construction industry are at the yearly peak.

The cooperative students are paid for their work by the employers at the prevailing rate for the type of work performed. Assignments will depend on experience, ability, willingness, and other factors. Wages can be paid directly to the student by the employer, or can be extended over the period the student is attending classes on the campus.

Students will be required to submit a full report covering each work period, and are encouraged to keep a diary in order to record the necessary information. These reports must be approved by the employer.

The cooperative program should make possible the completion of the academic work required for a degree from the University of Florida by many young men who otherwise would be unable to do so. Furthermore, these students will acquire practical experience that can be coordinated with the educational work so that the adjustment to working conditions in the industry will be accomplished by the time the student graduates. Contacts made during the periods of employment also may lead to permanent employment.

JUNIOR YEAR

First Semester	*Credits*
BCN. 301—Structural Design-Wood and Timber	4
BCN. 302—Water Supply and Sanitation	2
BCN. 303—Construction Methods and Equipment	3
BCN. 304—Materials-Wood and Timber Structures	2
BCN. 305—Construction Estimates and Costs	4
ATG. 211—Elementary Accounting	3
	18

Second Semester	*Credits*
BCN. 311—Structural Design-Steel	4
BCN. 312—Air Conditioning and Heating	2
BCN. 313—Construction Methods and Equipment	3
BCN. 314—Materials-Structural Metals	2
BCN. 315—Construction Estimates and Costs	4
RE. 381—Real Estate Fundamentals	3
	18

SENIOR YEAR

First Semester	*Credits*
BCN. 401—Structural Design-Concrete	4
BCN. 402—Electrical Services and Installations	2
BCN. 403—Construction Methods and Equipment	3
BCN. 404—Materials-Concrete Structures	2
BCN. 405—Construction Estimates and Costs	4
MGT. 401—Business Law	3
	18

Second Semester	*Credits*
BCN. 411—Supervision and Management	4
BCN. 412—Site Layout and Development	3
BCN. 413—Project and Construction Financing	2
BCN. 414—History of Building Construction	2
BCN. 415—Special Investigations	2
Elective-Department of Building Construction	2
Elective-Cultural	3
	18

V. CURRICULA IN ART

Clinton Adams, Advisor

The Department of Art offers undergraduate majors in the College of Architecture and Fine Arts leading to the degrees of Bachelor of Fine Arts, Bachelor of Design and Bachelor of Design in Art Education. Upper Division course requirements in the curricula are given below.

For the freshman and sophomore programs of study, consult the section of the catalog entitled The Lower Division. For further information concerning any of these curricula see the Head of the Department of Art.

In addition, the Department of Art offers a major in art in the College of Arts and Sciences leading to the degree of Bachelor of Arts. Requirements for this program are given in the listing of the College of Arts and Sciences.

The curricula in the College of Architecture and Fine Arts are intended for students who plan (1) to enter professional careers in fine arts or design, (2) to teach art in the public schools or in the universities and colleges, or (3) to enter the graduate program of study in art at the University of Florida.

The major in art in the College of Arts and Sciences should be chosen by those students whose interest is in a liberal education with emphasis upon the visual arts.

1. Curricula in Fine Arts

Leading to the Degree of Bachelor of Fine Arts

The curricula in Fine Arts provide for majors in (a) Fine Arts—drawing, painting, printmaking and sculpture, (b) the History of Art, and (c) Crafts—ceramics, jewelry and metalwork. Students who plan to enter a program of graduate study in art after receiving the baccalaureate degree are advised to register in one of these curricula. Upon completion of graduate work students entering these fields are qualified for positions in museums and art galleries, as instructors of art on the college or university level, or for independent activity as creative artists.

(a) Major in Fine Arts

JUNIOR YEAR

Course	*Credits*
ART 303—Methods & Materials of the Artist	3
ART 309—Criticism of Art	3
ART 350—Intermediate Drawing	2
ART 351-352—Painting I & II	6
ART 355—Printmaking I	3
ART 357—Sculpture I	3
History of Art	6
*Electives	9
	35

SENIOR YEAR

Course	*Credits*
ART 341—Photography	3
ART 408—Senior Seminar	2
ART 451—Advanced Drawing	4
Advanced Painting, Printmaking or Sculpture	12
History of Art	3
*Electives	8
	32

*Electives must include a minimum of nine credits outside the Department of Art.

(b) Major in the History of Art

JUNIOR YEAR

Course	Credits
ART 303—Methods & Materials of the Artist	3
ART 309—Criticism of Art	3
HY. 201-202—History of World Civilizations	6
PPY. 201—Problems of Philosophy	3
Foreign Language	6
History of Art	12
	33

SENIOR YEAR

Course	Credits
ART 408-409—Senior Seminar	4
PPY. 324—Aesthetics	3
Foreign Language	6
History of Art	12
Electives	9
	34

(c) Major in Crafts

JUNIOR YEAR

Course	Credits
ART 280—Beginning Ceramics	3
ART 303—Methods & Materials of the Artist	3
ART 309—Criticism of Art	3
ART 357—Sculpture I	3
ART 382—Intermediate Ceramics	3
ART 383-384—Jewelry and Metalwork I & II	6
History of Art	6
*Electives	6
	33

SENIOR YEAR

Course	Credits
ART 341—Photography	3
ART 358—Sculpture II	3
ART 408—Senior Seminar	2
Advanced Ceramics or Jewelry and Metalwork	12
History of Art	3
*Electives	11
	34

*Electives must include a minimum of nine credits outside the Department of Art.

2. Curriculum in Advertising Design.

Leading to the Degree of Bachelor of Design

The curriculum in Advertising Design is a professional program for students with serious professional intentions. Included in the curriculum are a series of courses in design, drawing and painting; the history and theory of art; and, in the professional field, lettering, layout, graphic design, advertising design, photography and illustration. Students receiving the Bachelor of Design degree in this curriculum are well qualified for professional careers in advertising design and related fields.

JUNIOR YEAR

Course	Credits
*ART 260—Lettering	3
ART 303—Methods & Materials of the Artist	3
ART 309—Criticism of Art	3
ART 341—Photography	3
ART 350—Intermediate Drawing	2
ART 360—Layout	3
ART 362—Advertising Design	3
History of Art	6
**Electives	7
	33

SENIOR YEAR

Course	Credits
ART 351—Painting I	3
ART 408—Senior Seminar	2
ART 460—Advanced Advertising Design	3
ART 467—Projects in Adver. Design	6
ART 468—Projects in Adver. Design	9
History of Art	3
**Electives	8
	34

*ART 260—should, if possible, be completed in the Sophomore Year.
**Electives must include a minimum of nine credits outside the Department of Art.

3. Curriculum in Art Education (College of Architecture & Fine Arts—College of Education)

Leading to the Degree of Bachelor of Design in Art Education

The curriculum in Art Education is designed for students who plan to teach art in the public schools. Students completing this curriculum, which is offered in cooperation

with the College of Education, are qualified for certification as teachers of art in the State of Florida.

JUNIOR YEAR

Course	*Credits*
ART 207-208—Intro. to the Principles & History of Art	6
ART 260—Lettering or ART 360—Layout	3
ART 280—Beginning Ceramics	3
ART 357—Sculpture I	3
*ART Electives	5
EDE 400—Problems of Instruction	3
EDS 305—The Secondary School Today	3
SCA 353—Art Education Workshop	3
SCA 453—The Teaching of Art	3
General Elective	3
	35

SENIOR YEAR

Course	*Credits*
ART 408—Senior Seminar	2
ART 355—Printmaking	3
*ART Electives	6
EDF 300, 320 or 410	3
EDE 405—The Practicum	15
General Elective	3
	32

*Art electives must include such advanced courses as are necessary to complete state certification requirements and must include a minimum of three closely related studio courses in a single advanced area (fine arts, crafts, advertising design, etc.)

VI. CURRICULUM IN MUSIC

Leading to the Degree of Bachelor of Fine Arts
James P. Hale, Advisor

The purpose of this curriculum is to prepare students to become musicians and music teachers both in private life and in the public schools. It is based on a broad yet concentrated foundation in music and includes work in theory of music, music literature, music education, applied music, and ensemble.

Students entering the University electing to major in this program will be required to take placement examinations in the following areas: (a) Theory of Music, (b) Musicology, (c) Piano, (d) Major instrument or voice. However, should the student be unable to pass a proficiency examination in piano prior to his admission to a Departmental Major Program in Music in the College of Architecture and Fine Arts (his junior year), he must then study piano each semester until he has met this requirement.

For further information see the Head of the Department of Music.

Requirements for the Degree.—To qualify for the degree of Bachelor of Fine Arts a student must complete the following courses to the satisfaction of the faculty.

For Freshman and Sophomore programs of study consult section of catalog entitled Lower Division.

JUNIOR YEAR

Course First Semester	*Credits*
MSC. 367—Music Education in the Elementary School	3
MSC. 368—Music Education in the Junior High School	3
MSC. 370—Music Seminar	0
MSC. 412—Survey of Music History	2
Applied Music in Courses above 100: Major Instrument or Voice	2
Ensemble: Band, Chorus, or Orchestra	1
Minor Instrument or Voice	1
Approved Electives	3
	15

Course Second Semester	*Credits*
MSC. 369—Music Education in the Senior High School	3
MSC. 370—Music Seminar	0
MSC. 405—Conducting	3
MSC. 413—Survey of Music History	2
Applied Music in Courses above 100: Major Instrument or Voice	2
Ensemble: Band, Chorus, or Orchestra	1
Minor Instrument or Voice	1
EDF. 300 or 410 or 320	3
	15

SENIOR YEAR

Course	*First Semester*	*Credits*	*Course*	*Second Semester*	*Credits*
MSC. 370	Music Seminar	0	EDE. 405	The Practicum: K-12	15
MSC. 461	School Music Administration	3			
	Applied Music in Courses above 300: Major Instrument or Voice	2			
Elective in Materials		3			
EDS. 305	The Secondary School Today	3			
EDE. 400	Problems of Instruction	3			
		14			15
			TOTAL		130

MUSIC SEMINAR:—All students majoring in music are required to register for MSC. 370—MUSIC SEMINAR, 0 credit, each semester.

Ensemble—Membership in ensemble music groups is open to all students of the University, after consultation with the Conductor. One credit per semester is offered in each group. A maximum of 6 semester hours credit in Ensemble (MSC 170-181) may be applied toward the Bachelor of Fine Arts degree. 4 Ensemble credit hours may be applied toward other Bachelor degrees.

The following courses are offered: University Band, Choral Union, Men's Glee Club, Women's Glee Club, University Orchestra, Mixed Quartet, Male Quartet, Women's Sextet, String Quartet, String Trio, Woodwind Quintet, Brass Ensemble, Two-piano Ensemble, Percussion Ensemble, and University Choir. These groups are organized to study and perform the standard repertoire written for the various vocal and instrumental combinations. Ensemble participation is a musical experience of inestimable worth.

Applied Music.—Applied Music is defined as lessons in voice and music instruments. Courses are offered in voice, piano, organ, violin, viola, violin-cello, string bass, flute, oboe, clarinet, bassoon, French horn, cornet, trombone, tuba, percussion, saxophone, harp, and harpsichord.

Method of Registration.—The student wishing to register for courses in Applied Music is to report to the Head of the Department of Music, who will designate a staff member as advisor to the student. This advisor will assist the student in outlining his program and will recommend the courses for which the student is best suited.

All students registering for Applied Music for the first time shall register in the first course number listed in that branch of Applied Music, i.e., initial enrollment for piano instruction is in MSC. 21—Piano, 1 credit. However, if the student has had considerable previous experience on his chosen instrument or voice, he may, prior to registration, take a placement examination to determine the proper course in which to register.

Method of Instruction.—Applied music is taught by the project method. Each student applying for lessons is given a placement examination evaluating his native ability, knowledge of subjects, skill proficiency, and repertoire. When the student's accomplishment level or potential has been gauged, he is assigned to a teacher for private or class instruction. Credits earned are determined by examination at the end of each semester and are based upon the student's native talent, technical advancement and repertoire. A minimum of 3 hours weekly practice is required in courses numbered under 100. A minimum of 6 hours weekly practice is required in courses numbering over 100. Students registering in Intermediate and Advanced courses may earn 2 credit hours each semester in any one branch of applied music. Students receiving failing grades for 2 consecutive semesters shall not be allowed to continue in Applied Music.

Fees.—The fees charged for Applied Music, instrument rental and practice room rental are listed elsewhere in this Catalog under *Expenses.*

The College of Arts and Sciences

GENERAL STATEMENT

Culturally and historically the programs of the College of Arts and Sciences represent the core of all higher education. The College grants its graduates the traditional Bachelor of Arts and Bachelor of Science degrees. This College makes its contribution to the work of the world not only through the many facts and skills it imparts but also by providing the student with the fundamental knowledge upon which the professional colleges build.

A major aim of the College is liberal education. To this end it insists on evaluations of ideas and actions according to their impact on society. Intellectual inquiry is emphasized as a preparation for more competent living and the development of human leadership.

SUBJECT-MATTER FIELDS

The subject-matter fields regularly offered to students in the College of Arts and Sciences and the extent of these offerings are indicated in the table below:

Subject	Electives	Major	Masters	Ph.D.
Anthropology	X	X	—	—
Art	X	X	Graduate work offered through College of Architecture and Fine Arts	
Astronomy	X	—	—	—
***Bacteriology	X	X	Graduate work offered through College of Agriculture.	
**Biology	X	X	X	X
Botany	X	X	Graduate work offered through College of Agriculture.	
**Chemistry	X	X	X	X
Economics	X	X	Graduate work offered through College of Business Administration.	
*Education	X	—	Graduate work offered through the College of Education.	
English	X	X	X	X
French	X	X	X	—

*Credit which may be offered for degree is limited. Detailed information may be obtained at the Office of the Dean.

**Also see the section below on requirements for the degrees "Bachelor of Science in Biology; Bachelor of Science in Chemistry; and Bachelor of Science in Geology."

***For undergraduate specialization in bacteriology see the material on BACTERIOLOGY in the section of this Catalog for the College of Agriculture.

Subject	Electives	Major	Masters	Ph.D.
Geography	X	X	X	X
**Geology	X	X	X	—
German	X	X	X	—
Greek	X	X	—	—
History	X	X	X	X
Journalism	X	Major and Graduate work offered through the School of Journalism and Communications		
Latin	X	X	X	—
Library Science	X	—	—	—
Mathematics	X	X	X	X
Meteorology	X	—	—	—
*Music	X	X	—	—
Philosophy	X	X	X	—
Physics	X	X	X	X
Political Science	X	X	X	X
Psychology	X	X	X	X
Religion	X	X	—	—
Russian	X	X	—	—
Sociology	X	X	X	X
Spanish	X	X	X	X
Speech	X	X	X	X
Zoology	See Biology listed above.			

UNIVERSITY COLLEGE PROGRAM

University College students who plan to enter the College of Arts and Sciences should:

1. Complete with satisfactory grades each of the "C" courses of the lower division or acceptable equivalent courses. This should be the first concern of future Arts and Sciences students.

2. Consult with the proposed major department as soon as they have chosen their major field.

3. Begin their foreign language requirements while registered in the University College.

4. Use the balance of their elective opportunities in the lower division in taking a selection of one and two hundred level courses in several Arts and Sciences departments. Arts and Sciences courses numbered three hundred or above are not available to lower division students except with written permission from the department offering them.

5. Study the following sections on Admission, Advisement Panel, and Requirement for Degrees.

ADMISSION

To be eligible for admission to the College of Arts and Sciences, students are required to have earned 64 semester hours of acceptable college credit, to have a 2.0 (C) average in all work attempted in the lower division, and to have demonstrated academic competency in all major areas of knowledge as presented in the work of the Comprehensive Courses of the University College or their equivalents.

If a student has completed the work of the University College and has an academic record which does not fully meet these admission requirements but shows such improvement as to provide a reasonable basis for predicting success in a degree program in this College, he may register in the University College for an admission probation program of courses arranged for him in the Office of the Dean of Arts and Sciences. If at the end of the probationary period he has made no grade lower than "C" he will be admitted to the College of Arts and Sciences. If his work in this trial program is poor, his admission will be finally denied.

ADVISEMENT PANEL

The College of Arts and Sciences maintains an Advisement Panel composed of faculty members representing each area of specialization offered by the College. Members of this

panel are available for student conferences at regular hours each week. Each student registered in the College is given at least one regular appointment with his adviser each semester for the purpose of arranging his program for the next semester. However, students may see their advisers as often as necessary. University College students planning to graduate from the College of Arts and Sciences should request the assignment of an adviser as early as possible in their university programs. Information regarding the advisement panel is available at the Office of the Dean.

Preprofessional Counseling Office: The College of Arts and Sciences maintains a Preprofessional Counseling Office for medical and allied fields in Room 12, Flint Hall. The purpose of this office is to provide advice, information and assistance for students in preparing themselves for professional work in the health sciences. The office obtains data, chiefly from instructors, on each student who registers as a preprofessional student, and on request supplies recommendations to professional schools for any applicant whose file is sufficiently complete. This system of recommending students has been in operation at the University for a number of years and professional schools expect to receive information from this office. It is essential, therefore, that each premedical and predental student register with the Preprofessional Counseling Office during the first few weeks of every semester so that sufficient data will be available for his recommendations.

Other services provided by the Preprofessional Office include: a reference file of catalogs of the Medical and Dental Colleges of the United States and Canada; a bulletin board for posting current information, not only on the Professional schools, but also on related matters such as the "Regional Plan," the Medical College Admissions Tests, the Dental Aptitude Testing Program; and brochures and other material for students interested in Osteopathy, Optometry, Nursing, Medical Technology, Nutrition, Physical Therapy, Public Health, and Sanitary Science. Students are encouraged to make use of these services.

The various types of professional training which are offered in the Health Sciences have different prerequisites, both as to specific courses and as to the number of hours required for admission to the professional program. Students should, therefore, obtain information on the requirements of the particular field or fields in which they are interested so as to pursue a satisfactory program of preprofessional preparation.

REQUIREMENTS FOR DEGREES

BACHELOR OF ARTS AND BACHELOR OF SCIENCE

The programs which lead to the degrees Bachelor of Arts or Bachelor of Science are alike in all basic requirements. The requirements for graduation with either of these degrees are as follows:

A minimum of sixty-four semester hours credit with an average of C in all work transferred to or completed in the College is required. In this work must be included (1) completion of a departmental Major as described below, (2) satisfaction of the Language requirements as described below, and (3) at least twelve semester hours of approved electives as described below in the statement of the elective requirement. It is further required that in the entire program of studies of the student he shall have earned a grade of "C" or better in each of the Comprehensive courses of the University College or in an equal number of semester courses in the area covered by each Comprehensive Course. It is also required that each student qualifying for a degree from the College shall possess facility in the oral and written use of the English language. This requirement will be considered satisfied when the department of the student's major has certified such facility.

The degree Bachelor of Arts will be conferred upon those who fulfill the requirements for degrees with majors in one of the fields of Anthropology, Art, Economics, English, French, German, Greek, History, Latin, Music, Philosophy, Political Science, Religion, Russian, Sociology, Spanish, and Speech.

The degree Bachelor of Science will be conferred upon those who fulfill the requirements for degrees with majors in one of the fields of Bacteriology, Biology, Botany, Chemistry, Geology, and Physics.

The degree of Bachelor of Arts or Bachelor of Science will be conferred upon those who fulfill the requirements for the degree with a major in Geography, Mathematics, or Psychology. A major in one of these subjects will lead to the Bachelor of Arts degree if the majority of subsidiary and elective credits in the student's entire program are earned

in the humanities and/or social sciences, and will lead to the Bachelor of Science degree if such subsidiary and elective credits are science credits.

The Departmental Major: A departmental major consists of two parts, as follows: (1) Concentration consisting of not less than twenty-four and not more than thirty-two semester hours in one subject-matter field. This field is called the student's major field. Work in this field taken in the University College or transferred to the University from another institution is included in evaluating the student's record for this requirement. However, all transfer credit in the major field must be approved by the major department and any such credit which is not approved as a part of the major will not apply toward the total credit requirement for the degree. No courses in the major field in which the grade earned is below C will be counted toward the fulfillment of the major requirement. (2) Such subsidiary courses from subject-matter fields other than the major field as are essential.

Foreign Language Requirement: All candidates for degrees awarded by the College of Arts and Sciences are required to have a reading knowledge of some foreign language. This requirement may be satisfied by examination or by the successful completion of six semester hours of work in one foreign language in courses numbered 201-202 or higher.

Students majoring in foreign language must satisfy this requirement by completing FLE. 351-352 and six semester hours in one or two foreign languages other than the major.

In preparing to meet the foreign language requirement students are advised to complete the necessary courses in the University College, where such courses may be taken as electives.

Elective Requirement: The viewpoint of the College of Arts and Sciences stresses the importance of an informed acquaintance with the major areas of human knowledge as well as a specialized preparation in one of these areas. In addition, therefore, to prescribing a major field, the College also requires that as a part of his Upper Division program each student complete at least twelve semeseter hours exclusive of his Foreign Language Requirement in courses unrelated to the area of his specialization. For the interpretation of this requirement, these major areas are regarded as (1) the biological sciences; (2) the humanities; (3) the physical sciences, including mathematics; and (4) the social sciences. Students are advised to regard this requirement as a minimum and to plan a broad program in the College as a liberal background for their specialization.

BACHELOR OF SCIENCE IN BIOLOGY

In addition to a departmental major in zoology, botany or bacteriology, a special curriculum is offered leading to the degree, "Bachelor of Science in Biology". This is designed for students who wish rigorous preparation in the area of biology as a foundation for later specialization in any particular field of basic or applied biology.

The requirements for this degree are:

(1) a. Credit must be presented with grades of "C" or above in each of the following courses:

BLY. 181 or BLY. 217	Biology	4
BTY. 180-217 or BTY. 217-405	Botany	8
BCY. 305-306	Basic Introductory Bacteriology	5
BLY. 308	Invertebrate Zoology	4
BLY. 305	Ecology	3
BLY. 325	Gentics and Speciation	4
BLY. 573	General Physiology (Cellular)	4
BTY., BCY. and/or BLY.	Approved Electives	12

b. Credit must be presented in each of the following courses:

CY. 217-218	General Chemistry and Qualitative Analysis	8
CY. 331	Quantitative Analysis	4
CY. 301-302 CY. 303-304	Organic Chemistry	8
PS. 201-202, 207-208	General Physics	8
MS. 205-206, 310	Advanced General Mathematics and Statistics	11

(2) A total of 78 semester hours must be earned in the Upper Division.

(3) At least twenty-five semester hours of Arts and Sciences courses, exclusive of any course listed in (1) above, any course offered in departments listed in (1)a, or any course used in meeting the foreign language requirement, must be presented in the total degree pro-

gram. Twelve or more of these twenty-five must be earned in the Upper Division in the areas of the Humanities and/or Social Sciences.

(4) The foreign language requirement must be met in French, German or Russian.

(5) All other requirements for the Bachelor of Science degree must be satisfied.

BACHELOR OF SCIENCE IN CHEMISTRY

In addition to a departmental major in chemistry, a special curriculum is offered leading to the degree "Bachelor of Science in Chemistry." This curriculum is designed for students who desire to make chemistry their vocation.

The requirements for this degree are:

(1) a. Credit must be presented with grades of "C" or above in each of the following courses:

CY. 217-218	General Chemistry and Qualitative Analysis	8
CY. 301-302	Organic Chemistry	6
CY. 305-306	Organic Chemistry Laboratory	4
CY. 331	Introductory Quantitative Analysis	4
CY. 401-402	Physical Chemistry	6
CY. 405-406	Physical Chemistry Laboratory	2
CY. 432	Advanced Quantitative Analysis	4
CY. 481	Chemical Literature	1

A minimum of 11 credit hours* selected from the following courses:

BCH. 402	Biochemistry	3
CY. 511	Advanced Inorganic Chemistry	3
CY. 512	Advanced Physical Chemistry	3
CY. 514	Advanced Organic Chemistry	3
CY. 498	Senior Research	2
CY. 499	Senior Research	3

*Upon approval of the major adviser in Chemistry the student may substitute up to 6 credit hours in advanced mathematics or physics courses in meeting this requirement.

b. Credit must be presented in each of the following courses:

PS. 205-206, 207-208	General Physics	8
MS. 205-206	Basic Mathematics	8
MS. 353-354	Differential and Integral Calculus	8
EH. 356	Report Writing	3

(2) A total of 78 semester hours must be earned in the Upper Division.

(3) At least twenty-five semester hours of Arts and Sciences courses, exclusive of any course listed in (1) above, any course offered in chemistry or any course used in meeting the foreign language requirement, must be presented in the total degree program. Twelve or more of these twenty-five must be earned in the Upper Division in the areas of the Humanities, Social Sciences and/or Biological Sciences.

(4) The foreign language requirement must be met in German or Russian.

(5) All other requirements for the Bachelor of Science degree must be satisfied.

BACHELOR OF SCIENCE IN GEOLOGY

In addition to a departmental major, a special curriculum is offered leading to the degree of "Bachelor of Science in Geology." This curriculum is designed for students who desire to make geology their vocation.

The requirements for this degress are:

(1) a. Credit must be presented with grades of "C" or above in each of the following courses:

GY. 203-205	Physical Geology	4
GY. 204-206	Historical Geology	4
GY. 308-318	Mineralogy and Petrology	6
GY. 309-340	Structural Geology and Interpretation of Geologic Maps	5
GY. 321	Invertebrate Paleontology	3

GY. 401	Geology of North America	3
GY. 411	Principles of Economic Geology	3
GY. 417	Sedimentology and Stratigraphy	4
GY. 440	Geologic Field Methods	2
GY. 500	Advanced Studies in Geology	3
GY. 501	Geomorphology	3
GY. 518 or GY. 522	Optical Mineralogy / Micropaleontology	3
GY. 430	Individual Work—to follow either GY. 518 or GY. 522	3

b. Credit must be presented in each of the following courses:

CY. 217-218	General Chemistry and Qualitative Analysis	8
PS. 201-202, 207-208	General Physics	8
MS. 205-206	Basic Mathematics	8
MS. 353-354	Differential and Integral Calculus	8
EH. 356	Report Writing	3

(2) A total of 78 semester hours must be earned in the Upper Division.

(3) At least twenty-five semester hours of Arts and Sciences courses, exclusive of any course listed in (1) above, any course offered in geology, or any course used in meeting the foreign language requirement, must be presented in the total degree program. Twelve or more of these twenty-five must be earned in the Upper Division in the areas of the Humanities, Social Sciences and/or Biological Sciences.

(4) The foreign language requirement must be met in French, German or Russian.

(5) All other requirements for Bachelor of Science degree must be satisfied.

GRADUATION WITH HONORS AND HIGH HONORS

For graduation *With Honors* a student must earn an honor point average of 3.2 or higher in the work of the Upper Division.

For graduation *With High Honors* a student must complete the College High Honors Program. This consists of 12 semester hours normally taken in the student's last two regular undergraduate semesters. Six semester hours are taken in a special honors program in the major department and six semester hours in the College Senior Seminar.

The Senior Seminar is concerned with an evaluation of human achievement in the humanities and social sciences and in the biological and physical sciences. It is conducted by a committee composed of four members of the faculty representing different areas of knowledge and a chairman, all appointed by the Dean. Admission to the Senior Seminar shall be at the discretion of this committee.

The College Office will receive applications for admission to the Senior Seminar from students who have the following qualifications at the time of applying:

1. The student must be currently registered in the College of Arts and Sciences and have completed one semester's work in residence in this college, or he must have completed two semester's work in residence in the College of Arts and Sciences.
2. The student must have earned an honor point average of 3.2 or higher in all of his college work, or he must have earned his Associate of Arts from the University College with High Honors.
3. The student must be recommended by his major department for admission to the program.

The basis for recommendation to the faculty for a degree with High Honors shall be that the major department and the seminar committee recommend the student as having completed the College High Honors Program with distinction. It is also required that he be otherwise eligible for graduation *with Honors.*

GENERAL REGULATIONS

Student Responsibility: Each student must assume full responsibility for registering for the proper courses and for fulfilling all requirements for his degree.

Seniors must file formal application for a degree in the Office of the Registrar and must pay the graduation fee early in the semester in which they expect to receive the degree; the official calendar shows the latest date on which this can be done.

Each student is responsible for completing all courses for which he is registered. Courses can be dropped or changed without penalty only through the offices of the Dean of the College and the Registrar.

The student's program of studies is subject to the approval of his adviser and the Dean.

Maximum and Minimum Loads: Sixteen or seventeen semester hours in any regular semester shall be considered a normal load. A student may be permitted to register for eighteen or nineteen semester hours when, in the opinion of his adviser, the quality of his record justifies this.

The minimum load for a regular full-time student in the University during a regular semester is twelve hours. At the time of registration, a student, with the approval of the Dean, may register for less than twelve semester hours. If a student wishes to drop courses during the semester thereby reducing his load below twelve semester hours, he must have the approval of the University Senate Committee on Student Petitions.

Credit for Course Work outside the College: Ordinarly a student's credit for a degree in the College of Arts and Sciences are limited to courses in the subject-matter areas listed at the beginning of this section. However, on the recommendation of the student's adviser and with the approval of the Dean, a student may present a maximum of six semester hours of work for his degree from courses in subject-matter areas not listed under the College of Arts and Sciences.

Arts and Sciences students may satisfy the certification requirement for secondary teachers by taking a program of 24 hours of Education courses. Eighteen of these hours may be counted toward the Arts and Sciences degree.

Residence Requirement: The last thirty semester hours to be applied toward a degree must be completed in residence in the College of Arts and Sciences. In special cases this requirement may be waived, but in no case may the amount of extension or correspondence work permitted exceed twelve of the last thirty-six hours required for the degree.

Student Petitions: If a student feels that the College regulations work a peculiar hardship or injustice in his case, he may petition for waiver of the regulation involved. Information on procedure in submitting such petitions is available in the Office of the Dean.

Other Student Regulations: The University issues a bulletin entitled *Student Regulations* which contains much information of essential importance to any student. For example, the general regulations governing military training and student employment are covered. Each student in the College of Arts and Sciences should be familiar with this material. Copies of the bulletin may be obtained at the Office of the Registrar.

SPECIAL PROGRAMS

PRE-PROFESSIONAL TRAINING

The College of Arts and Sciences offers pre-professional training necessary for admission to professional schools of Theology, Medicine, Dentistry, Law, and Library Science. Students interested in preparing for professional training in one of these areas will be referred to an appropriate adviser.

TEACHER PREPARATION IN ARTS AND SCIENCES

Students may earn their degree in the College of Arts and Sciences, and complete requirements for certification as a high school teacher in one or more academic subjects by following one of the Arts and Sciences—Education Programs described in the College of Education section of this catalog.

Further information may be obtained in the College of Arts and Sciences Office, 103 Anderson Hall.

AMERICAN AREAS STUDIES PROGRAM

This program is designed to give the student an extensive acquaintance with the cultural heritage and democratic philosophy of the United States. It is a flexible program in which the student and his adviser arrange an elective sequence around a major in any field of study in the College of Arts and Sciences. This elective program will include courses in American and World History, American and English Literature, American Philosophy, American Government, the Economics of American Life, American Social Problems, the Geography of Anglo-America, and Religion in American Life.

The program should be begun in University College. Students are referred to Dr. Harry R. Warfel for advisement in connection with this program.

LATIN-AMERICAN STUDY PROGRAM

The College of Arts and Sciences offers this curriculum at its particular contribution to Latin-American Studies at the University of Florida and to the interest of the State in Latin-American affairs. The program is designed to provide a broad cultural base for students who plan to do graduate work in the field or who plan careers with Latin-American connections in business or government.

The program is based on a departmental major leading to the degree of Bachelor of Arts. The major may be selected from the following fields: Economics, Geography, History, Political Science, or Sociology and Anthropology. In addition, two special requirements exist: (1) the student must take from twenty-four to twenty-seven hours of courses with Latin-American emphasis. Courses taken within the major may be counted in fulfillment of this requirement. (2) He must demonstrate a reading and speaking knowledge of Spanish or Portuguese. This requirement may be satisfied either through course work or through special examination.

All students interested in the program, including those enrolled in the University College, should consult with the program adviser, Dr. L. N. McAlister, Peabody 111, for assistance in planning their course of study.

SOCIAL ADMINISTRATION

This program provides training for beginning workers in social administration and a foundation for those desiring graduate work in this field. The program is so designed that the student is provided with a pre-professional background without sacrificing the advantages of a liberal education.

The program in social administration leads to the degree of Bachelor of Arts and all requirements for this degree must be met. The student will have a departmental major in sociology, with appropriate subsidiary courses in Economics, History, Political Science, and Psychology.University College electives recommended for students preparing to enter the program include: ATG. 211-212, ES. 203, ES. 201-202, HY. 202, PCL. 201, SY. 201, PSY. 201, SCH. 201. Students interested in this program should confer with Dr. S. E. Grigsby, Peabody 304, for assistance in planning this program.

INTERNATIONAL AFFAIRS

This program provides a limited amount of professional preparation for careers in international affairs, including the Foreign Service of the Department of State, Central Intelligence Agency, National Security Agency, the United Nations and its specialized agencies, and other international organizations. A command of one or more foreign languages is required for most of these positions. Such training is designed to lead to appointment as Foreign Service Officer, Intelligence Research Specialist, Foreign Affairs Analyst, etc. Admission to the Foreign Service is primarily through the Foreign Service Officer Examination; recruitment for non-intelligence positions with the U. S. Government is through the U. S. Civil Service Commission. For further information the student should consult the Foreign Service Adviser, Dr. John Spanier, 196 Building E.

It is important that in the University College the student preparing for a career in international affairs start at least one foreign language and take other courses listed below to complete his electives.

The recommended courses for preparation in international affairs include: Political Science 201, 209-210, 303, 307-308, 311, 509, 524 and 526; Geography 200, 300 and 481; History 245-246, 325-326; Economics 201-202, 203; English 218, 498 and 502.

If time permits further work the student may select, depending upon the area of interest, such courses as Political Science 304, 522, 541, 542; Geography 485, 586, 587, 588, 589; History 333, 334, 371, 372, 381, 382; ES. 347, 409. For the Foreign Service, proficiency in one foreign language is necessary. French, Spanish, German and Russian are acceptable.

PUBLIC ADMINISTRATION AND GOVERNMENT PLANNING

This program provides an introduction to professional preparation in public administration and government planning for students who plan to terminate formal study with the Bachelor of Arts degree and a broad foundation for those preparing for graduate work in the field. Students who complete the program may secure employment with the Federal Government by passing the Federal Service Entrance Examinations, including the management Intern Option, if they desire. These examinations should be taken in the senior year. Administrative positions with state and local government agencies are also available. Those who go on to the Master of Arts degree may qualify for advanced civil service examinations and for positions in the field of city management, planning, and administrative analysis.

All requirements for the Degree of Bachelor of Arts with a departmental major in Political Science must be met. It is strongly urged that students begin work on the foreign language requirement and elect from Accounting 211-212, Economics 201-202, and Political Science 201-202-203 while in the University College. After admission to the College of Arts and Sciences Agricultural Statistics 310 should be taken, as should Political Science 311, 512, 312, 516, 517 and Economics 327. Depending on the student's field of interest he should elect from History 245-246; Economics 321, 372, 404, 454, 477, 478; Real Estate 491; Psychology 201, 206, 306, 503; Sociology 201, 326; and Accounting 311 and 417.

The student should keep in mind the undesirability of excessive specialization and the College or Arts and Sciences requires that 12 hours of elective work be taken outside the social sciences and those areas that contribute directly to his vocational preparation. Additional information and help in planning course programs may be had by consulting Dr. Rondal Downing.

MAJOR IN GENERAL BIOLOGY

An interdepartmental major in biology is available to students working for the Bachelor of Science degree. This is designed for the preparation of high school biology teachers* and is also available to the student who wishes to pursue a general interest in the life sciences as a part of a liberal education. It is not, however, adequate preparation for graduate work in any of the life-science departments. This major includes the following courses:

BTY. 180, BLY. 181	Introductory Botany and General Zoology	8
BLY. 308	Invertebrate Zoology	4
BTY. 211	Elementary Plant Physiology	3
BTY 217	General Botany	4
BLY. 300	Common Animals and Plants of Florida	3
BCY. 300	Bacteria in Everyday Life	3

*For the entire program of preparation for high school science teachers, see the Arts and Sciences—Education Programs in the College of Education section of this catalog.

SPECIALIZATION IN THE FINE ARTS

Music: The student who selects a Major in Music must earn a total of thirty-two semester hours in the following courses:

Applied Music in approved courses numbered above 100	8 hrs.
Theory of Music, MSC. 101, 102, 201, 202	12 hrs.
Survey of Music History, MSC. 412, 413	4 hrs.

Upon completion of the above courses the student must select an area of concentration —i.e., Applied Music, Theory of Music or Musicology, and earn eight credits in that concentration. (These required eight credits are in addition to those listed above and must be specifically approved for each student.) The student must also participate in ensemble music groups for not less than six semesters.

Students entering the University electing to major in music in this program will be required to take placement examinations in the following areas: (a) The chosen field of concentration, (b) Theory of Music, (c) Musicology, (d) Piano. However, should the student be unable to pass a proficiency examination in piano prior to his admission to a Departmental Major Program in Music in the College of Arts and Sciences (his junior year), he must then study piano each semester until he has met this requirement.

Students interested in majoring in music should consult Mr. Guy B. Webb, as soon as possible in their college program.

Art: The student who elects a Major in Art must earn a total of not less than twenty-four nor more than thirty-two semester hours including the following courses: (1) ART 101-102, ART 103-104, ART 207-208, a total of fourteen hours; (2) a minimum of eight additional semester hours in a single field of specialization: Fine Arts; History of Art; Crafts; Advertising Design; Fashion Illustration, Design and Construction; or Photography; and (3) ART 408, 2 hours.

Students should consult Professor Eugene E. Grissom in planning a major program.

SPECIALIZATION IN SANITARY SCIENCE

A program for a Bachelor of Science degree with a major in Chemistry, Biology or Bacteriology may be arranged to include those subjects most important for base-level employment as a Sanitarian. Students are referred to Dr. A. P. Black for advisement in this program.

CHAIR OF AMERICANISM

Through the generosity of the American Legion, Department of Florida, which has provided a fund of $40,000 for this purpose, supplemented by legislative appropriation, there is maintained a Professorship in the Department of History of the College of Arts and Sciences known as the "Chair of Americanism." This Chair was established to present courses and lectures on American ideals, American government, American institutions, and American citizenship.

The Professor of Americanism teaches courses in American History and promotes special programs on American ideals. Although the University requires all freshman to take an eight credit, two semester course entitled, "American Institutions," a number of additional courses in American History are offered as electives. The central theme in all American History courses is the struggle of the people of the United States for a more perfect democracy.

Part of the income from the endowment of the Chair of Americanism is used to bring outstanding Americans to the University of Florida for a series of addresses on the theme of American traditions. Many of the lectures are published and distributed as a part of the Americanism program of the University.

PLACEMENT SERVICE

The facilities of the University Placement Service are available to students in the College or Arts and Sciences. Students wishing to make use of this service should report directly to Mr. M. E. Mayberry, University Placement Officer, Building H, South End.

ADMISSION TO GRADUATE STUDY

The general section of this catalog dealing with admissions describes certain minimum requirements for admission of graduate students to the University. Additional details for admission are given in the section of the catalog concerned with the Graduate Division.

Students wishing to be admitted to graduate work in any Department of the College of Arts and Sciences must meet these requirements and must also: (1) have earned a 3.0 (B) average in all work attempted in the proposed major field as well as having earned the required 3.0 (B) average for all work done during the Junior and Senior years of the undergraduate program; (2) have made a score of at least 500 on the Graduate Record Examination by averging the aptitude portions of the G.R.E. alone or in conjunction with the advanced subject matter test in the major field; (3) have completed an amount and

distribution of work in the proposed graduate major field which is satisfactory to the major department; and (4) have qualities conducive to successful study on a graduate level.

Students who do not meet the requirement for unqualified admission to the Graduate Program of the College of Arts and Sciences but who have the following minimum qualifications: (1) a 2.6 average in the last two years of undergraduate work (2) twelve hours in the major field, may apply for the planning of a trial program. If so accepted by the college the student will be registered as a 5th year Arts and Sciences major and will be given a program of about 15 semester hours involving advanced undergraduate courses and including not more than six semester hours of graduate courses. Upon completion of this program with no grade less than "B" the student will be given unqualified admission to the graduate school. Up to 12 hours of the trial program may be credited to his graduate record. This trial program will not be continued beyound the originally planned period.

The College of Arts and Sciences offers the Masters of Arts, Master of Science and Doctor of Philosophy degrees through its qualified department. In addition the College offers the Master of Arts in Teaching and Master of Science in Teaching for students interested in a program planned for the training of Junior College teachers in academic areas.

The College of Business Administration

GENERAL STATEMENT

The College of Business Administration of the University of Florida was organized in 1926-27 to meet the needs of Florida business. The divisions of the College are: Department of Accounting; Department of Economics; Department of Finance and Insurance; Department of Management and Business Law; Department of Marketing; Department of Real Estate; and Bureau of Economic and Business Research.

The objectives of the College of Business Administration are broad: to provide the educational foundation for competent and responsible participation in the field of business; to stimulate appreciation of the total social and economic structure and of the civic and social obligations of businessmen; to develop ability to make business decisions; and to offer an opportunity for some specialization in a functional area of business.

Specific arts and detailed information are necessary parts of the curriculum, but the guiding principle of this College is to stress broad fundamentals in terms of the above objectives, and to prepare the student to develop subsequent specialization in the environment of particular business responsibilities. To this end, every curriculum of the College is constructed around a core of courses in economics and the major functional areas of business.

The College also has other functions. It contributes to knowledge through the research activities of its faculty and students. It provides graduate programs for advanced students and prospective teachers in business administration and economics. It participates in programs of adult education both on and off campus. It recognizes its responsibilities to students in other colleges of the University by giving them an opportunity to complement their education with courses in economics and business administration.

SCHOLARSHIPS AND ASSISTANTSHIPS

Graduate assistantships and fellowships are available for students working toward the degree of Master of Business Administraton, Master of Arts, and Doctor of Philosophy. Information about these assistantships may be obtained from the Director of Graduate Studies, College of Business Administration, University of Florida, Gainesville, Florida.

Some thirty scholarships for students in Business Administration have been made available through the generosity of individuals, firms and associations interested in the various phases of business. Included are scholarships for students in Accounting, Finance, Insurance, Marketing, Real Estate, Resort and Club Management, and Transportation. Full information on these will be found in a special student aid bulletin published by the Dean of Men's Office.

BUREAU OF ECONOMIC AND BUSINESS RESEARCH

There is established in the College of Business Administration a Bureau of Economic and Business Research. One of the major purposes of this Bureau is to carry out research undertakings designed to contribute to economic and business knowledge, with primary emphasis upon the economy of Florida and the Southeast. A second major aim looks to the future participation of the faculty members of the Bureau staff in the curriculum for graduate training offered by the College of Business Administration and in this way to provide opportunity for graduate students to engage in specific research projects. From time to time work may be undertaken permitting a similar opportunity to undergraduate students.

The Bureau publishes the results of its research undertakings as these are completed. It also issues a monthly publication, *Economic Leaflets.*

The Bureau is a member of the Associated University Bureaus of Economic and Business Research.

MEMBERSHIP IN NATIONAL AND REGIONAL ASSOCIATIONS

The College of Business Administration is a member of the American Association of Collegiate Schools of Business, the Southern Economic Association, and the National Retail Merchants' Association.

PLACEMENT OF GRADUATES

While the College of Business Administration does not obligate itself to secure positions for its graduates, it operates a placement service and does everything it can to assist students in securing employment after graduation.

BETA GAMMA SIGMA

Election to this national honorary society is based on scholarship and character. It fills the place in education for business that the society of Phi Beta Kappa holds in the field of classical education. Duly elected members have the right to wear the *insigne* of the society—the Beta Gamma Sigma gold key. For further information apply to the Office of the Dean.

PROFESSIONAL ORGANIZATIONS AND CLUBS

There are five professional fraternities who elect members from students in the College of Business Administration. These are Alpha Kappa Psi and Delta Sigma Pi in commerce and business, Beta Alpha Psi in accounting, Phi Chi Theta for business women, and Pi Sigma Epsilon in marketing, sales management and selling. Several clubs also give students with specialized interest an opportunity to participate in their activities: The Real Estate Club, The Insurance Society, The Sales Club, The Finance Association, The Student Club Managers Association, and a student chapter of The Propeller Club. A student chapter of the Society for Advancement of Management elects its memberships both from this College and the College of Engineering.

MAXIMUM CREDIT LOADS OF STUDENTS

The curricula in Business Administration are so planned that fully admissible students will not need to take more than 18 hours per semester during their two years in the upper division. Registration for more hours than these may be permitted for students whose grades are satisfactory but in no case can it exceed the general University regulations concerning maximum credit loads.

Following the completion of 36 semester credit hours of upper division work, no student will be permitted to take extension or correspondence courses for credit or honor points unless he currently has a cumulative grade point average of 2.0 or better, and his petition to take such work has been approved in advance by the faculty of the College. In any case, no student may take more than six semester credit hours by extension or correspondence among the 66 semester credits of upper division work required for the baccalaureate degree; and such work must be approved for each individual student by the Petitions Committee of the College.

GRADUATION WITH HONORS

To graduate *With Honors*, a student must make at least 3.2 on all course work accepted for the degree as Upper Division credit and all work taken in the Upper Division. To graduate *With High Honors* a student must make at least a 3.6 on all course work accepted for the degree in the Upper Division and all work taken in the Upper Division. In calculating requirements for graduation *With Honors* or *With High Honors*, transfer credits will be excluded but the student must have at least 45 semester hours taken in the Upper Division in this College.

UNDERGRADUATE DEGREES AND CURRICULA

The College of Business Administration offers the Bachelor of Science in Business Administration. To secure the BSBA degree students must complete one of the programs of course groupings in the curriculum in Business Administration.

GRADUATE DEGREES AND ADMISSION TO GRADUATE WORK

Courses are offered in the College of Business Administration leading to the degree of Master of Business Administration, Master of Arts, and Doctor of Philosophy. For

requirements for these degrees consult the section of this *Catalog* entitled The Graduate School. This section also states the conditions for admission to the Graduate School. Students who do not meet the requirements for unqualified admission to the Graduate School as there stated may apply for the planning of a trial program. If so accepted by the college the student will be registered as a fifth year student and will be given a program of about 15 semester hours involving advanced undergraduate courses and including not more than six semester hours of graduate work. Upon completion of this program with an average grade of "B" and a satisfactory achievement in the Graduate Record Examination, the student will be considered for unqualified admission to the Graduate School. Up to 12 hours of the trial program may be credited to his graduate record. The trial program will not be continued beyond the original planned period.

ADMISSION REQUIREMENTS

Students will be admitted to the College of Business Administration who have completed 64 credits and fulfilled the following requirements*:

1. Completion of the requirements of the University College with an academic average of 2.0 or higher. This must include:

(a) C-1, C-21, C-3, C-41, C-5, C-61, and C-22 or C-62, with a passing grade on each.

*Students who enrolled in the University prior to June, 1960 have the option of following the admission requirements as stated in the Catalog under which they first enrolled.

(b) All required foundation courses, with a passing grade on each, as follows:

ATG. 211-212	—Elementary Accounting	
BS. 101	—Business in a Dynamic Society	
ES. 201-202	—Basic Economics	
ES. 203	—Statistics	
EH. 212	—Advanced Composition)	(See "2" below)
or EH. 255	—Business Communications)	
MS. 205	—Basic Mathematics	
MS. 207	—Basic Mathematics for the Social Sciences	

2. Demonstrated proficiency in English and Speech, determined as follows:

(a) Students receiving less than a 16.5 percentile score in the Writing Laboratory portion of C-32 will be required to satisfactorily complete EH. 133 before taking EH. 212 or EH. 255. Students demonstrating satisfactory proficiency in written English will proceed to EH. 212 or EH. 255. Students demonstrating outstanding achievement will be excused from EH. 212 and EH. 255, thus gaining additional hours of electives in the lower division. Transfer students will be required to take a writing proficiency test upon admission, and will be similarly evaluated and placed.

(b) A speech proficiency test is required of all students seeking admission to the College. Students receiving unsatisfactory grades in this test will be required to enroll (during the first semester in the upper division) either in SCH. 200 (if a speech impediment is evident) or in SCH. 201 (if inability to organize and present a speech is shown). Credit for such a course may be counted as an upper division "free elective."

3. A Committee on Admissions will consider requests for admission from students who do not meet the conditions stated above. Admission without the required academic average, however, will be approved only in exceptional cases.

CURRICULUM IN BUSINESS ADMINISTRATION

The curriculum in Business Administration is divided into 9 programs of study. Each student is required to select and complete one of these groups or programs. Of 66 semester hours required for graduation (72 hours in the Accounting major), from 42 to 51 hours are prescribed. The remaining hours are allocated to "approved electives," some of which are to be chosen from restricted lists available through the Dean's Office. All electives are expected to be relevant to the students' educational goals and are subject to approval by the student's counsellor. In advanced military science, a maximum of 6 credits may be counted toward these electives.

UPPER DIVISION CORE REQUIREMENTS

All degree-seeking students in the College of Business Administration are required to complete the following core courses:

	Credits
Economics (Group I)—*One** of the following:	
ES. 406—Machine Technology in American Life	3
ES. 409—Comparative Economic Systems	3
ES. 411—Development of Western Economy	3
ES. 468—Economic History in the Making	3
Economics (Group II)—*One** of the following:	
ES. 407—Economic Principles and Problems	3
ES. 429—Introduction to Business Cycles	3

	Credits
Finance	
FI. 325 (ES. 325)—Public Financial Policy	3
FI. 326—Business Finance	3
Legal Framework of Business—*One** of the following:	
ES. 404—Government Control of Business	3
MGT. 401—Business Law	3
Management Synthesis	
BS. 479—Business Policies	3
Marketing	
MKG. 331—Principles of Marketing	3
Real Estate/Insurance—*One** of the following:	
FI. 360—Principles of Insurance	3
RE. 381—Principles of Real Estate	3
Statistics	
ES. 366—Economic Statistics	3
Total Core Requirements	27

*Where choice is available, students should note that *in certain major fields required choices are as follows:*

ES. 409—Real Estate Major.

ES. 407—Business Statistics; Economics; Foreign Trade and Transportation; and Management.

ES. 429—Banking and Finance; and Real Estate.

ES. 404—Banking and Finance; Business Statistics; Economics; Foreign Trade and Transportation.

MGT. 401—Insurance; Management; Marketing; Real Estate.

RE. 381—Real Estate Major.

OTHER UPPER DIVISION REQUIREMENTS

In addition to the upper division core just described, each student must follow the curricular pattern indicated below:

	Credits
Major Field	
Required courses are listed under the appropriate "major" headings beginning in the next section. Twelve credits (18 for Accounting) are the minimum requirement.	12-18
Business Administration Electives	
Unless otherwise specified under the listing for the major field, 6 credits are to be taken in a single field *other than the major.* The remaining 3 credits may be taken within or outside the major	9

Out-of-College Requirements

PSY. 200 (SY. 200)—Introduction to Behavior Science (Required of all Business Administration degree candidates) 3

Six additional credits must be selected from an extensive but specific list* of courses in the Social Sciences, Physical Sciences, Natural Sciences and Humanities. Individual choices must be approved by advisor. 6

Free Electives

Electives may be within or outside the College of Business Administration, but must be *outside* the major field. Maximum of 6 credits in Advanced Military may be counted toward upper division credit 9

Total 39-45

*List of approved courses available in Room 214, Matherly Hall.

I. ACCOUNTING

This curriculum is designed to provide background in the basic elements of accounting and to provide general preparation in the three major fields of accounting: public, private, and governmental.

Major Field	*Credits*
ATG. 311-312—Intermediate Accounting	6
12 Credits elected from following or from 500 courses with permission of advisor:	
ATG. 313—Industrial Accounting)	
ATG. 412—Auditing)	
ATG. 414—Income Tax Accounting.	12
ATG. 417—Governmental and Institional Accounting)	
ATG. 419—Controllership)	
	18

Other	*Credits*
Bus. Admin. Electives	
ATG. 411—Adv. Accounting	3
Two courses in a single field *other* than Accounting	6
	9

II. BANKING AND FINANCE

This curriculm is designed for those students who plan to go into commercial or investment banking or into other types of financial institutions.

Major Field	*Credits*
FI. 420—Management of Bank Funds	3
FI. 422—Principles of Investments...	3
FI. 424—Security Analysis	3
FI. 528—Corporation Finance	3
	12

Other	*Credits*
Bus. Ad. Electives	
ES. 421—Adv. Money & Banking	3
MGT. 401-402—Business Law	6
	9

III BUSINESS STATISTICS

This curriculum is designed primarily to prepare students for professional work either in government or in private business. Students who complete the curriculum should be able to qualify for the rank of junior statistician immediately upon graduation and for the rank of senior statistician as soon thereafter as sufficient practical experience can be acquired.

Major Field	*Credits*
BS. 464—Statistical Controls for Management	3
ES. 429—Introduction to Business Cycles	3
ES. 469—Business Cycles and Forecasting	3
AS. 520—Sampling Methods	3
	12

IV. ECONOMICS

This curriculum is designed to provide students with a basic core of courses in Economics, while, at the same time, enabling them to select their electives from among a variety of courses adapted to their needs and interests.

Four of the following courses (12 cr.) to be selected on the basis of the student's interest in consultation with his advisor:

Major Field	*Credits*
ES. 347—Principles of Foreign Trade	)
ES. 351—Elements of Transportation	)
ES. 372—Labor Problems	)
ES. 408—Economic Principles and Problems	)
ES. 410—Development of the Western Economy	)
ES. 421—Advanced Money and Banking	) 12
ES. 429—Introduction to Business Cycles	)
ES. 475—Wage Theory and Practice	)
ES. 476—Government in Relation to Labor	)
ES. 577—Problems in Federal Finance	)
ES. 578—Problems in State & Local Finance	)
	12

V. FOREIGN TRADE AND TRANSPORTATION

This curriculum is designed to provide the student with the alternatives of an overall view of international trade in its geographic, financial, social and political aspects—leading especially toward employment in exporting and importing; or a general understanding of the economic and certain practical aspects of the public service or closely regulated industries—leading toward research or employment in transport or public utility industries.

Four of the following courses (12 cr.) to be selected on the basis of the student's interest in consultation with his advisor:

Major Field	*Credits*
ES. 296—Industry and Trade of Latin America	)
ES. 347—Principles of Foreign Trade	)
ES. 351—Elements of Transportation	)
ES. 408—Economic Principles & Problems	)
ES. 444—Ocean Transportation	)
ES. 448—Foreign Trade Technique	)
ES. 451—Traffic Management	) 12
ES. 453—Transport Regulation	)
ES. 454—Principles of Public Utility Economics	)
ES. 457—Air Transportation	)
ES. 458—Highway Transportation	)
ES. 485—International Economics Relations	)
ES. 541—Financial Institutions & Fiscal Policies of Latin America	)
ES. 549—International Finance: Foreign Exchange	)
	12

VI. INSURANCE

This curriculum is designed to prepare students for a career in the field of insurance. It is so formulated that the student may give primary emphasis either to life insurance or to property insurance by grouping his course selections appropriately.

Any four of the following courses (except that FI. 360 must be included here if the student has elected RE. 381 in the Upper Division Core):

Major Field	*Credits*
FI. 360—Principles of Insurance	)
FI. 363—Life and Health Insurance	)
FI. 365—Property Insurance	)
FI. 366—Casualty Insurance & Corporate Suretyship	)
FI. 387—Functional Aspects of Insurance & Agency Management	) 12
FI. 462—Group Insurance and Pension Plans	)
FI. 463—Social Insurance	)
FI. 584—Legal Aspects of Insurance	)
FI. 586—Estates, Trusts and Insurance	)
	12

VII. MANAGEMENT

This curriculum is designed for students interested in overall management problems, industrial management, industrial relations or personnel management.

Major Field	*Credits*
MGT. 469—Managerial Operations Analysis	3
MGT. 471—Principles of Organization	3
MGT. 472—Collective Bargaining	3
MGT. 473—Problems in Personnel Management	3
	12

VIII. MARKETING

This curriculum is designed to prepare students for careers in the distributive industries, for market research activities, and for graduate work in marketing. A student interested in some particular area of marketing, such as sales, retailing, or advertising, should select his courses accordingly.

Major Field	*Credits*
One or both of the following:	
MKG. 233—Salesmanship	) 3-6
MKG. 333—Advertising	)
MKG. 437—Retailing	3
One or more of the following, to a maximum of 6 credits:	
MKG. 334—Sales Management	)
MKG. 434—Advertising Problems	)
MKG. 436—Credit & Collections	) 3-6
MKG. 438—Sales & Market Analysis	)
MKG. 450—Retail Management	)
	12

Other	*Credits*
Bus. Ad. Electives	
MKG. 439—Marketing Problems	3
Two courses in a single field *other* than Marketing	6
	9

IX. REAL ESTATE

This curriculum is designed to prepare students to enter a general real estate business, or any one of its special branches such as appraising, finance, property management, and brokerage.

Major Field	*Credits*
RE. 390—Property Valuation	3
RE. 392—Real Estate Brokerage & Management Policies & Practices	3
RE. 393—Urban Land Utilization	3
RE. 492—Real Estate Finance	3
	12

Other	*Credits*
Bus. Ad. Electives	
RE. 490—Real Estate Appraising	3
Two courses in a single field *other* than Real Estate	6
Free Electives Recommended:	
AE. 482—Community Planning	3
AE. 321—Plan Reading & Cost Estimating	3
	15

College of Education

GENERAL STATEMENT

The College of Education, a professional school, has for its purpose the preparation of qualified personnel for the public schools of Florida. More specifically, its purposes are to plan, organize, and conduct programs of teacher education; to furnish professional courses in education included in the curricula for students preparing to teach; to collaborate with other colleges of the University in matters pertinent to teacher education; to furnish advisory services for students concerning teacher education; to conduct experimental and research studies in education; and to cooperate with educational agencies, professional groups, school personnel, and others interested in the evaluation and improvement of educational opportunities, programs, and services.

PROGRAMS IN TEACHER EDUCATION

Programs in teacher education represent the cooperative planning and effort of the College of Education and colleges which offer courses in the teaching fields in which students wish to become certified. Certain programs are available only to students enrolled in the College of Education. Others are open to students in the College of Education and students of other cooperating colleges. The minimum professional sequence requirement and the teaching field requirements are identical for each program whether the degree is sought in the College of Education or a cooperating college.

The teacher education program consists of three major parts: (1) general preparation; (2) professional education; and (3) one or more teaching fields.

General preparation for teachers.—For general preparation students must present a total of 45 semester hours with a minimum of six hours in each of the following areas:

Area I. Communication: C-31, C-32, EH. 306, EH. 133, EH. 212, EH. 255. (Speech, journalism, and first year foreign language count in this area, but cannot replace six basic hours in English composition.)

Area II. Human Adjustment: C-41, philosophy, religion, SY. 244, health, physical education, psychology.

Area III. Science and Mathematics: C-21, C-22, C-42, C-61, C-62, astronomy, biology, botany, chemistry, geology, physics, mathematics. Some credit must be earned in subjects other than mathematics.

Area IV. Social Studies: C-11, C-12, or *at least* two courses from the following: geography, history, political science, sociology (other than SY. 244), anthropology, economics.

Area V. Humanities: C-51, C-52, or *at least* two courses from the following: literature, foreign language (second year or higher), art, industrial arts, music, technological skills, philosophy.

The minimum professional sequence for teachers.—Students preparing for teaching (with the exception of Agriculture) take a minimum program of professional courses. The courses required are:

	Credits
Elementary:	
EDF. 245—Human Growth and Development	3
EDF. 300—History of Education in the U. S.	
or	
EDF. 320—Social Foundations of Education	
or	
EDF. 410—Philosophy of Education	3
EDE. 300—Children and Learning, I	9
EDE. 301—Children and Learning, II	3
EDE. 302—Children and Learning, III	3
EDE. 405—The Practicum	15
	36

K-12 Teaching Fields: *Credits*

EDF. 245—Human Growth and Development	3
EDF. 300—History of Education in the U. S.	
or	
EDF. 320—Social Foundations of Education	
or	
EDF. 410—Philosophy of Education	3
EDE. 400—The Elementary School Today	3
EDS. 305—The Secondary School Today	3
EDE. 405—The Practicum	15
or	
EDS. 403—Internship: Secondary School Curriculum and Organization	3
and	
EDS. 404—Internship: Methods and Materials for Classroom Use	3
and	
EDS. 405—Internship: Teaching in the Secondary School	9
	27

Secondary: *Credits*

EDF. 245—Human Growth and Development	3
EDF. 300—History of Education in the U. S.	
or	
EDF. 320—Social Foundations of Education	
or	
EDF. 410—Philosophy of Education	3
EDS. 305—The Secondary School Today	3
EDS. 403—Internship: Secondary School Curriculum and Organization	3
EDS. 404—Internship: Methods and Materials for Classroom Use	3
EDS. 405— Internship: Teaching in the Secondary School	9
	24

Teaching Fields.—Teaching field requirements are stated in the description of each program.

GENERAL REQUIREMENTS FOR ALL TEACHER EDUCATION PROGRAMS

A student who enters the teaching profession through a University of Florida program in teacher education must be able to use the English language effectively and must have the qualities of personality which make him an acceptable teacher. He is also required to meet minimum general academic standards and minimum standards of physical and mental health.

Prior to admission to a teacher education program, the student is screened for speech defects, personality difficulties and physical deficiencies. Other requirements for admission include an average of "C," or better, in all courses in professional sequences completed, an overall "C" average, and six hours of "C" in four of the five areas of General Preparation. Special application for admission must be made to the College of Education in addition to that made in the office of the Registrar. Application for admission to the teacher education program must be approved by the office of the Dean of the College of Education before registration in 300 level professional education courses is permitted.

PROGRAMS OFFERED

I. Program for Elementary Education

Students who plan to major in Elementary Education should pursue the following program:

UNIVERSITY COLLEGE

	Credits
EDF. 245—Human Growth and Development	3
MSC. 390—Music for the Elementary Child	3
(Prerequisite: MSC. 160 or equivalent)	
SCA. 253—Art Education, I	3
PHA. 373—Teaching Physical Education in the Elementary School	3

COLLEGE OF EDUCATION

Junior and Senior Years	Credits
EDE. 300—Children and Learning, I	9
EDE. 301—Children and Learning, II	3
EDE. 302—Children and Learning, III	3
GL. 301—Elementary School Science, I	3
SCL. 301—Social Studies in the Elementary School	3
PHA. 361—Elementary School Health Program	3
EH. 491—Children's Literature	3
EDF. 300—History of Education in the U. S.	
or	
EDF. 320—Social Foundations of Education	
or	
EDF. 410—Philosophy of Education	3
EDE. 405—The Practicum	15
Electives in general or professional education selected with advice of counselor	15

The student and his counselor from the College of Education will together develop a program that will enable the student to meet satisfactorily the requirements in the above curriculum. Students transferring from another institution should consult a counselor in Elementary Education immediately upon their admission to the College of Education.

II. Programs for K-12 Teaching Fields

Since Florida teachers in art, music, speech, education for exceptional children and physical education are certified to work at all grade levels, the University of Florida teacher education programs in these fields include courses and experiences at the elementary and secondary school levels. These programs are jointly planned and jointly administered between the two college faculties concerned. The same programs are required and a bachelor's degree may be obtained through either college. In the College of Education, these programs are administered as follows: art and music education through the Elementary Education Department; speech and physical education through the Secondary Education Department; education for exceptional children through the Department of Personnel Services.

A. College of Architecture and Fine Arts—College of Education Programs

1. Art Education

Students should complete ART 101-102—Beginning Design, ART 103-104—Beginning Drawing and Painting, ART 205-206—Intermediate Drawing and Painting, SCA. 253—Art Education, I, and EDF. 245—Human Growth and Development while in the University College.

JUNIOR YEAR

Course	Credits
*EDS. 305—Sec. School Today	3
*EDE. 400—The Elementary School Today	3
SCA. 353—Art Education Workshop	3
SCA. 453—Teaching of Art	3
ART 207-208—Intro. to Principles & History of Art	6
ART 260—Lettering	
or	
ART 360—Layout	3
ART 280—Beginning Ceramics	3
ART 357—Sculpture, I	3
**ART Electives	5
General Electives	3
	35

SENIOR YEAR

Course	Credits
EDE. 405—The Practicum	15
EDF. 300—History of Ed. in the U. S.	
or	
EDF. 320—Social Foundations of Education	
or	
EDF. 410—Philisophy of Ed.	3
ART 408 or 409—Senior Seminar	2
ART 355—Printmaking, I	3
**ART Electives	6
General Electives	3
	32

*EDS. 305 and EDE. 400 are to be taken concurrently.

**Electives in ART must include such advanced courses as are necessary to satisfy state

certification requirements and must include a minimum of three closely related studio courses in a single advanced area (painting, crafts, advertising, design, etc.).

2. Music Education

Students should complete MSC. 101, 102, 201, and 202—Theory of Music, four credits in ensemble, and six credits in applied music (at least four credits being above the 100 level) and EDF. 245—Human Growth and Development while in the University College.

JUNIOR YEAR

Course	*Credits*
MSC. 367—Music Education in the Elem. School	3
MSC. 368—Music Education in the Jr. High School	3
MSC. 369—Music Education in the Sr. High School	3
MSC. 370—Music Seminar	0
MSC. 405—Conducting	3
MSC. 412-413—Survey of Music History	4
Applied Music in Courses above 100; Major Instrument or Voice	4
Minor Instrument or Voice	2
Ensemble: Band, Chorus, or Orchestra	2
Approved Electives	3
EDF. 300 or 410 or 320	3
	30

SENIOR YEAR

Course	*Credits*
MSC. 370—Music Seminar	0
MSC. 461—School Music Administration	3
Applied Music in Courses above 300; Major Instrument or Voice	2
Elective in Materials	3
EDS. 305—The Secondary School Today	3
EDE. 400—The Elementary School Today	3
EDE. 405—The Practicum	15
	29

B. College of Education Program

1. Education for Exceptional Children

The College of Education offers programs of preparation for those interested in teaching the slow learners and the orthopedically handicapped and for persons interested in working in the area of speech correction and hearing.

For students interested in these programs at the graduate level, a number of courses can be elected in the undergraduate program. These courses will count as general background for this field and as prerequisites for the appropriate graduate work. Recommended courses, some of which can be taken while the student is enrolled in the University College, include PSY. 201, 202, 312, EDP. 300, and SCH. 201. Additional work in this area should be selected in consultation with a counselor or with the Undergraduate Counseling Office, 140 Norman Hall.

C. College of Education—College of Physical Education and Health Program

1. Physical Education

While enrolled in the University College all students should complete PHA. 251—Square and Social Dance. EDF. 245—Human Growth and Development, and EDF. 300—History of Education in the U. S., or EDF. 320—Social Foundations of Education, or EDF. 410—Philosophy of Education. In addition, men will complete PHA. 283—Track and Baseball, PHA. 284—Team Games for Men, and PHA. 287—Gymnastics for Men; while women will complete PHA. 252—Modern Dance, PHA. 253-254—Team Sports for Women, PHA. 255—Individual and Dual Sports for Women, PHA. 256—Swimming and Diving for Women, PHA. 257—Gymnastics for Women, PHA. 258—Tennis and Golf for Women.

JUNIOR YEAR

Course	*Credits*
PHA. 315—Applied Anatomy and Physiology	3
PHA. 325—Conduct of Playgrounds And Indoor Centers	3
PHA. 373—Teaching Physical Educ. in the Elementary School	3
PHA. 375—Adapted Physical Educ.	3
PHA. 376—First Aid and Injuries	2
PHA. 391—Principles of Physical Education	3
MEN:	
PHA. 281—Football	2
PHA. 282—Basketball	2
PHA. 285—Individual and Dual Sports for Men	2
PHA. 286—Aquatics for Men	2
WOMEN:	
PHA. 305—Teaching and Officiating Team Sports for Women	2
PHA. 306—Teaching and Officiating Team Sports for Women	2
PHA. 307—Teaching of Folk, Social and Tap Dance	2
PHA. 308—Teaching of Modern Dance	2
PHA. 484—Tests and Measurements in Physical Education	2
	27

SENIOR YEAR

Course	*Credits*
PHA. 363—Teaching Physical Education in Secondary School	3
PHA. 441—Administration of Physical Education and Athletics	3
EDS. 305—The Secondary School Today	3
EDE. 400—The Elementary School Today	3
Elective	3
EDS. 403—Internship: Secondary School Curriculum and Organization	3
EDS. 404—Internship: Methods and Materials for Classroom Use	3
EDS. 405—Internship: Teaching in the Secondary School	9
	30

III. Programs for Junior High School Teaching Fields

A program for preparing teachers for the junior high school is available in the major subject fields and for core programs.

IV. Programs for Secondary School Teaching Fields

Students preparing to teach in the secondary schools may follow programs offered exclusively in the College of Education or programs offered through cooperation of the College of Education and the College of Arts and Sciences and the College of Agriculture.

A. College of Education Program

1. Vocational Agriculture

The curriculum in Agricultural Education is designed to prepare students to be teachers of vocational agriculture as provided for under the provisions of the Smith-Hughes and George-Barden Acts. Since the teaching in such positions covers all phases of agriculture, the curriculum contains courses from each agricultural department.

Students desiring to register are advised to take the program of study recommended in the University College for Agricultural Education.

JUNIOR YEAR

Course	*First Semester*	*Credits*
AG. 303—Farm Shop		3
FT. 301—Food Technology		3
FY. 413—Forestry for Agriculturists		3
AL. 309—General Animal Husbandry		3
EDF. 245—Human Growth and Development		3
EDV. 306—Vocational Education		3
		18

Course	*Second Semester*	*Credits*
AS. 306—Farm Management		3
AL. 316—Elementary Livestock Management		2
AG. 306—Farm Machinery		3
EDS. 305—The Secondary School Today		3
EDV. 303—General Methods in Agriculture		3
Elective		2
		16

SENIOR YEAR

Course	*First Semester*	*Credits*	*Course*	*Second Semester*	*Credits*
SLS.	310—Soils	4	SLS.	311—Soil Management	2
EY.	203—Economic Entomology	3	FC.	341—Citrus Growing	3
OH.	329—Landscape Gardening	3	AS.	308—Marketing	3
VY.	401—Farm Sanitation	3	AG.	407—Farm Shop Power Equipment	3
EDV.	409—Supervised Teaching in Agriculture	3	EDV.	410—Supervised Teaching in Agriculture	3
EDV.	411—Adult Education in Agriculture	2	EDV.	412—Course Organization in Vocational Agriculture	2
		18			16

B. College of Arts and Sciences—College of Education Programs

A basic professional sequence of twenty-four hours EDF. 245, EDF. 300 or 320 or 410, EDS. 305, and EDS. 403, EDS. 404 and EDS. 405, is required when the student works for a degree in the College of Arts and Sciences. Students taking degrees in the College of Education will have an additional six semester hours of professional courses selected with the assistance of their advisers. No course in which the grade earned is below "C" may be counted in this sequence.

1. Social Studies Specialization

A minimum of 42 hours in social science beyond the basic general education course is required. Of these, a minimum of 24 hours must be taken in history and U. S. Government. No course in which the grade earned is below "C" may be counted in these 42 hours.

REQUIRED COURSES:

History
HY. 201, 202, 245, 246 ..... 15 hours
and one from:
HY. 333, 334, 371, 372, 381, 382
Political Science
PCL. 201 and an approved elective ..... 6 hours
Geography
GPY. 200, 382 ..... 6 hours
Economics
ES. 201 ..... 3 hours
Sociology
SY. 201 ..... 3 hours
Additional Social Science
Required in a single one of the above social science fields ..... 9 hours

Total ..... 42 hours

2. Biology and Chemistry Specialization:

For Biology-Chemistry specialization a minimum of 40 semester hours of biology and chemistry is required. Of this total a minimum of 24 hours must be taken in one of these fields and a minimum of 16 in the other. No course in which the grade earned is below "C" may be counted in these 40 hours.

REQUIRED COURSES:	*Biology Emphasis 24 hr. Component*	*Chemistry Emphasis 16 hr. component*
Biology		
BTY. 180 or BTY 217; BLY 181 or BLY 217	8	8
BTY. 217 or BTY. 405 or BTY. 406; BLY. 308	8	8
BCY. 300	3	–
BLY. 202, 323, 300, 305, 307, 325; BTY. 301, 302	5	–
Chemistry	16 hr. component	24 hr Component
CY. 215, 217, 218	11	11
CY. 362, 363	5	5
CY. 317, 331	–	8
Total	40 hours	40 hours

3. Chemistry and Mathematics Specialization:

For the Chemistry-Mathematics specialization a minimum of 40 semester hours in chemistry and mathematics is required. A minimum of 25 hours (mathematics) or 24 hours (chemistry) must be taken in one of the fields and a minimum of 16 hours in the other. No course in which the grade earned is below "C" may count in these 40 hours.

REQUIRED COURSES:	*Mathematics Emphasis 25 hr. component*	*Chemistry Emphasis 16 hr. component*
Mathematics		
MS. 205 and MS. 206 or 207	8	8
MS. 353, 354	8	8
MS. 310, 311, 331, 359, 400, 411, 420, 423, 501, 510, 521	9	-
	16 hr. component	*24 hr. component*
Chemistry		
CY. 215, 217, 218	11	11
CY. 362, 363	5	5
CY. 317, 331	-	8
Total	41 hours	40 hours

4. Mathematics and Physics Specialization:

A minimum of 41 hours of mathematics and physics is required. This work must be divided so that 25 hours are completed in one of these fields and at least 16 in the other. No course in which the grade earned is below "C" may be counted in these 41 hours.

REQUIRED COURSES:	*Mathematics Emphasis 25 hr. component*	*Physics Emphasis 16 hr. component*
Mathematics		
MS. 205 and MS. 206 or 207	8	8
MS. 353, 354	8	8
MS. 310, 311, 331, 359, 400, 411, 420, 423, 501, 510, 521	9	-
Physics	*16 hr. component*	*25 hr. component*
PS. 205, 206, 207, 208, 303	11	11
Physics Electives	5	-
PS. 407, 309, 310, 311, 402	-	11
PS. 420, 305 or 507	-	3
Total	41 hours	41 hours

Recommended Electives: CY. 217, 218

5. Language Arts Specialization

This program leads to certification in English, Speech and Journalism. Thitry-six hours of English and Speech above the basic general education courses are required. This work must be divided so that 24 hours are taken in one of these fields and 12 in the other. Six hours of Journalism are also required, making a total of 42 semester hours. No course in which the grade earned is below "C" may be counted in these 42 hours.

REQUIRED COURSES:	*Speech Emphasis 12 hr. component*	*English Emphasis 24 hr. component*
English		
EH. 363, 365, or 366	3	3
EH. 215, 501 or 502	3	3
EH. 306, 506, or 509	3	3
EH. 217, 218, 401, 402, 495, 496, 497, 498, or 509	3	—
EH. 217, 218	—	3
EH. 401 or 402	—	3
EH. 201, 493, 494, or 464	—	3
EH. 495, 496, 497, 498, or 509	—	3
EH. Elective, numbered above 400	—	3

Speech	*24 hr. component*	*12 hr. component*
SCH. 201	3	3
SCH. 314 or 303	3	3
SCH. 307 or 250	—	3
SCH. 317 or 315	—	3
SCH. 307, 308, 309	9	—
SCH. 250 or 310	3	—
SCH. 317 or 315	3	—
SCH. Elective	3	—
Journalism		
JM. 201 and JM. 515	6	6
Total	42 hours	42 hours

Recommended Electives: LY. 302, 304 and Foreign Language.

6. Foreign Language—English Specialization:

This program is designed to prepare the student to teach his own and a foreign language. A total of 41 semester hours of language courses is required beyond the basic general education course in English and the first year college level course in the foreign language. This work includes 14 hours in English, and 21 hours in one foreign language (Latin, Spanish, French, and German).

In addition, one course in comparative language study, one course in methods of teaching foreign language, and one course in speech are required:

REQUIRED COURSES:	*Hours*
EH. 363, 365, or 366	3
EH. 215, 501 or 502	3
EH. 217, 218, 401, 402, 495, 496, 497, 498, 509	3
EH. 212, or 327	2
EH. Elective, numbered above 400	3
SCH. 201, FLE. 351	6
Foreign language above first year college level (see language options below)	21
Total	41

Options

Latin: LN. 201, 202, 307, 308 and 9 hours in LN. 599 (6 hours composition and 6 hours lectures).
Spanish: SH. 201, 202, 305, 306, 307, 308, 501, or 502.
French: FH. 201, 202, 305, 306, 307, 308, 503, or 504.
German: GN. 201, 202, 305, 306, 307, 308, 509, or 510.

Other Programs

The College of Arts and Sciences and the College of Education offer programs for persons wishing to prepare in a single field or in a combination of two fields not associated in the programs listed above.

Single field programs available in Mathematics and Foreign Language (French, German, Latin or Spanish) are given in detail below. No course in which the grade earned is below "C" may be counted in meeting these specialization requirements.

7. Mathematics:

REQUIRED COURSES:	*Hours*
MS. 205 and MS. 206 or 207	8
MS. 353, 354	8
Elective Courses:	
MS. 310, 311, 331, 359, 400, 411, 420, 423, 501, 510, 521	9
Total	25

Recommended Supplementary Electives:

ATY. 316, AY. 329, CL. 223, CY. 217, CY. 218,
EGR. 181, ES. 203, GPY. 330, MSC. 201, PPY. 320,
PS. 205, PS. 206, PS. 207, PS. 208, PSY. 211.

8. Foreign Language:

Preparation in a single foreign language consists of 24 semester hours in that language above the first year college level (see language options below), 6 semester hours in a second foreign language and FLE. 351, making a total of 33 hours.

Options

Latin: LN. 201, 202, 307, 308, and 12 hours in LN. 599 (6 hours composition and 6 hours literature)

Spanish: SH. 201, 202, 305, 306, 307, 308, 501 or 502

French: FH. 201, 202, 305, 306, 307, 308, 503 or 504.

German: GN. 201, 202, 305, 306, 307, 308, 509, or 510.

9. Individual programs may be planned by selection of one or two areas from the following fields:

Biology	Language
Chemistry	Library Science
English	Mathematics
History	Physics
Journalism	Speech

For combination programs preparation must include a minimum of 24 semester hours above any comprehensive or general education courses in a field and 18 semester hours, exclusive of general education courses, in the second. A guide to the specific courses required in each field may be worked out individually and must be approved by both colleges. No courses in which the grade earned is below "C" may count in the requirements. The planning of combination programs will take into account the personal and educational objectives of the student, the relationship between the fields in the proposed combination, the certification requirements of the state and the employment possibilities which the combination being considered offers.

C. College of Education Programs

1. Business Education

While registered in the University College students should complete: BEN. 81-181—Introductory and Advanced Typewriting; BEN. 91-191 — Introductory Shorthand and Shorthand Dictation; ES. 201-202—Basic Economics; EDF. 245—Human Growth and Development.

JUNIOR YEAR

Course	*Credits*
ATG. 211—Elementary Accounting	3
BEN. 291—Shorthand Dictation and Transcription	3
EH. 255—Business Communications	3
ES. 321—Money and Banking or	
FI. 322—Financial Institutions	3
EDS. 305—The Secondary School Today	3
ATG. 212—Elementary Accounting	3
EDS. 521.—Principles of Business Education	3
MGT. 401—Business Law	3
EDF. 300—History of Education in the U. S. or	
EDF. 320—Social Foundations of Education or	
EDF. 410—Philosophy of Education	3
Electives	6
	33

SENIOR YEAR

Course	*Credits*
EDS. 403—Internship: Secondary School Curriculum and Organization	3
EDS. 404—Internship: Methods and Materials for Classroom Use	3
EDS. 405—Internship: Teaching in the Secondary School	9
MGT. 402—Business Law	3
Electives in Business Administration	3
Electives in Education	3
Electives	6
	30

2. Core

Students who contemplate entering this program must secure prior approval of the Department of Secondary Education, must be willing to carry the heavy load of work and attend a Summer Session if necessary, and must be approved for internship in the Core. It is suggested that students complete the following basic subject courses while in the University College: EH. 215—Introduction to American Literature; HY. 201-202—History of World Civilization; MS. 105-106—Basic Mathematics; EDF. 245—Human Growth and Development; and EDF. 300—History of Education in the U. S. or EDF 320—Social Foundations of Education or EDF. 410—Philosophy of Education.

As outlined below the program includes minimum Florida certification in Language Arts and Social Studies with six or more credits in each field of Mathematics and Science. A variation of this pattern would be minimum certification in Mathematics and Science with credit in Language Arts and Social Studies above the level of the general education courses.

JUNIOR YEAR

Course	*Credits*
EH. 310—The American Novel	3
EH. 363—Contemporary Literature: Drama or	
EH. 366—Contemporary Literature: Poetry	3
SCH. 201—Effective Speaking	3
HY. 245—United States History to 1865	3
HY. 246—United States History, 1865 to the Present	3
PCL. 201—American Federal Govt.	3
ES. 201—Basic Economics	3
GPY. 200—Introduction to Geography	3
Science electives	6
SY. 244—Marriage and the Family	3
EDS. 305—The Secondary School Today	3
Education Elective	3
	39

SENIOR YEAR

Course	*Credits*
EH. 327—Imaginative Writing	3
SCH. 307—Interpretation of Literature	3
SCH. 314—Types of Public Discussion	3
SCH. 317—Correction of Speech Defects	3
ES. 382—Principles of Resource Utilization or	
GPY. 382—Principles of Resource Utilization	3
Education elective	3
EDS. 403—Internship: Secondary School Curriculum and Organization	3
EDS. 404—Internship: Methods and Materials for Classroom Use	3
EDS. 405—Internship: Teaching in the Secondary School	9
	33

ADMISSION TO ANY TEACHER EDUCATION PROGRAM

Although any University College student may enroll in EDF. 245, a student who proposes to enter a teacher education program must be admitted to the Advanced Professional Sequence in Education prior to enrollment in the major curriculum course (EDS. 305 for secondary students, or EDE. 300, 301 and 302 for elementary students). Applications for admission to the Advanced Professional Sequence may be submitted to Room 140 Norman Hall, during the term the student is taking EDF. 245 and must be completed one month prior to the proposed registration for EDS. 305 or EDE. 300, 301, and 302.

REQUIREMENTS FOR ADMISSION

For admission to the Advanced Professional Sequence in Education, students will be required (1) to present a minimum of six semester hours in each of the five areas of general preparation with grades of "C" or better in four of the five areas; (2) to have a "C" average or better in specific pre-professional courses for the curriculum of their choice and in their field of specialization; (3) to have maintained a "C" average or better in all residence work at the University of Florida; (4) to have approval of the Committee on Admissions of the College of Education. The Committee will review the application of each candidate in respect to qualities considered to be essential for effective teaching. The student is expected to speak and to write the English language effectively, and to meet minimum standards of physical and mental health.

ADMISSION TO INTERNSHIP IN ANY TEACHER EDUCATION PROGRAM

Prior to acceptance for internship in a teacher education program, a student must have fulfilled the following requirements:

(1) Be enrolled in an upper division college;

(2) Have been admitted to the Advanced Professional Sequence and have completed the following work:

(a) Elementary—EDE. 300, 301, and 302; MSC. 390; SCA. 253; GL. 301; PHA. 361, 373; SCL. 301; EH. 491.

(b) Teaching Fields K-12—EDS. 305; EDE. 400; at least two-thirds of the course work in the teaching area in which the internship is to be taken and the following courses in the field of specialization:

Art: SCA. 253, 353
Music: MSC. 367, 368, 369, 461
Exceptional Child: PSY. 201,312; SCH. 201; EDP. 300
Physical Education PHA. 373, 363

(c) Secondary—At least 9 hours in education including EDF. 245 and EDS. 305, and at least two-thirds of the course work in the teaching area in which internship is to be taken.

Students must apply for intern teaching in Elementary, K-12, or Secondary in the Undergraduate Counseling Office, Norman 140. The application must be received by October 1 preceding a Spring internship and by March 1 preceding a Fall internship.

Students have the responsibility for making arrangements to live in the community where internship is to be done and to assume living expenses of $100 to $125 in addition to regular on-campus living expenses.

DEGREES AND CURRICULA

The degrees Bachelor of Arts in Education and Bachelor of Science in Education are offered in the College of Education. The Bachelor of Science in Education degree is granted to students whose first area of specialization is in science, mathematics, agricultural education, or business education; other curricula lead to the Bachelor of Arts in Education degree. For either degree the student is required to complete at least 130 semester credits with a general average of "C" or better in all residence work. He must also complete College and certification requirements for field of specialization.

GRADUATION WITH HONORS AND HIGH HONORS

To graduate from the College of Education with honors or high honors, the student will be required to earn on all college work an academic average of 3.2 for honors and an average of 3.5 for high honors. He must have earned at least 60 credits, with the appropriate average, at the University of Florida.

TEACHERS' CERTIFICATES

Graduates of the University of Florida teacher education programs are granted certification by the State Department of Education without further examination.

SCHOLARSHIPS AND LOANS

General Scholarships for preparation of Teachers (formerly Lewis, House, and Senatorial), the A. R. Mead Scholarship Fund, and the Kate V. Wofford Scholarship Fund are sources of funds for prospective teachers. Information may be obtained from the Graduate or Undergraduate Counseling Offices, College of Education.

JUNIOR COLLEGE ADMINISTRATION AND TEACHING

M.Ed., Ed.S., and Ed.D. programs, which meet certification requirements for junior college teaching, are available in many fields. Ed.S. and Ed.D. programs are available for training junior college administrators. Students interested in administration or teaching at this level should consult with the head of the Junior College Center.

GRADUATE EDUCATION

DEGREES AND FIELDS OF SPECIALIZATION

Four graduate degrees are offered in the College of Education: the Master of Education, the Master of Arts in Education, the Specialist in Education, and the Doctor of Education.

Specialization at the master's degree level is possible in the following fields:

Agricultural Education
Business Education
Early Childhood Education
Educational Administration
Elementary Education
Foundations of Education
Guidance and Counseling
Junior College Education
Language Arts Education
Mathematics Education
Reading
Science Education
Secondary Education
Social Studies Education
Supervision
Teacher Education
Teaching Exceptional Children

The Specialist in Education degree is designed to give advanced training which prepares for a specific type of leadership position in the public schools. Specialist in Education programs are available in the following fields:

Administration
Agricultural Education
Audio-Visual
Educational Psychology and Human Growth and Development
Elementary Education
High School Teacher
Junior College Teacher
Personnel Services
Research Specialist in Education
Supervision

The Doctor of Education degree is offered in Curriculum and Instruction, Educational Administration, Personnel Services, and Foundations of Education.

COUNSELING AND PERSONNEL SERVICES

To assist students in their educational and vocational planning and to insure the induction of the best teachers into the schools of Florida, the College provides guidance and personnel services.

The student is provided help in planning a sequence of courses that will give him the best training possible for a particular field of work and that will at the same time enable him to meet state certification requirements.

Counseling facilities include: (a) undergraduate counseling, Room 140, Norman Hall, (b) graduate counseling (Office of Graduate Studies in Education), Room 132, Norman Hall, and (c) the educational placement office, Room 140, Norman Hall.

The Educational Placement Office is a service agency for both former students of the University and educational administrators. Up-to-date records are kept on registrants who are available for positions. Information is also available concerning opportunities in education at all levels and in related fields. Services of the office are free of charge; persons who wish to avail themselves of these services should communicate with the Educational Placement Office, 140 Norman Hall.

College of Engineering

GENERAL STATEMENT

The prime purpose of the College of Engineering is to educate men for the engineering profession. In our highly technical civilization a technological training should prove of value wherever the graduate decides to serve, for it must be recognized that many graduates of engineering schools become leaders and executives in varied fields.

The engineer should have thorough knowledge of the fundamental physical sciences and mathematics. He should know enough practical economics to apply the physical sciences properly to man's needs. He should be able to express himself clearly both with the written and spoken word. He should have enough information in his professional field of application and in allied fields to fulfill engineering engagements normally assigned the college graduate. His training should be thoroughly grounded in fundamentals so that he can continue to grow after leaving the college. His professional consciousness must be such that he becomes an able member of his profession. Above all, he must always discharge his responsibilities as a citizen.

The curricula of the College of Engineering are planned with these objectives in mind. Whether the student plans to apply his engineering skill and knowledge to the fields of aeronautical, agricultural, chemical, civil, electrical, engineering sciences, industrial, or mechanical engineering he will find that many courses, particularly those of the first two years, are common for all fields. Specialization occurs basically in the junior and senior years. Further specialization may be secured by selecting options in several of the major fields.

Recognizing the need for persons trained in the field of engineering with specialization in the field of agriculture, the College of Engineering in cooperation with the College of Agriculture offers work leading to the degree of Bachelor of Agricultural Engineering. Students registered for this program take work which will educate them in the application of engineering principles to the problems of agriculture. The demand for agricultural engineers in Florida should continue to increase with the industrialization of farms and groves.

The field of engineering has been thought of almost exclusively as a man's domain. In the past few years, however, increasing numbers of women have been entering this field and are taking their places in the profession on an equal footing with men. Women who are interested in an enginering career and who have aptitudes in mathematics and science are invited to confer with the Dean of the College with reference to choosing engineering as a profession.

The College of Engineering awards the following baccalaurate degrees:

Bachelor of Aeronautical Engineering
Bachelor of Agricultural Engineering
Bachelor of Chemical Engineering
Bachelor of Civil Engineering
Bachelor of Electrical Engineering
Bachelor of Engineering Sciences
Bachelor of Industrial Engineering
Bachelor of Mechanical Engineering
Bachelor of Metallurgical Engineering

The Engineers' Council for Professional Development has accredited the curricula of the College of Engineering in aeronautical, chemical, civil, electrical, industrial and mechanical engineering. The College of Engineering has prepared an illustrated bulletin entitled "Engineering Education at the University of Florida" describing the educational and research activities of the College. Prospective students may secure a copy of this bulletin without cost from the Office of the Dean of the College or from the Office of the Registrar of the University. Other publications and general information concerning the engineering profession and engineering education can be obtained from the Office of the Dean of the College of Engineering by request.

Since the requirements for graduation in engineering exceed 140 semester hours and the difficulty of the work required is well recognized, THE CURRICULA FOR ALL DEPARTMENTS IN THE COLLEGE OF ENGINEERING HAVE BEEN ESTABLISHED ON A FIVE YEAR BASIS. Quality of performance serves the engineering graduate far better than do quantity and mediocrity. These curricula, however, are arranged to enable qualified students to accelerate their programs and to graduate in less time. The curriculum in Engineering Sciences has been arranged on an accelerated "four year" basis as only students with high academic records are accepted into this program.

Subjects basic to engineering, and a few professional courses, are secured while the student is registered in the University College. In the Engineering College the student is given instruction in courses of a professional nature. The individual characteristics of the student are also given consideration and he is encouraged to utilize the time allowed for electives for productive activity in both technical and non-technical courses. He is also encouraged to develop further his initiative and imagination by devoting his spare time to the solution of special technical problems and projects. Library research and laboratory experience help the student mature in his understanding of the relationship of engineering practices to social and economic developments. The student is encouraged to coordinate his efforts in all fields of endeavor so that he will be well-grounded in the fundamentals of engineering practices and well equipped to take his place in his chosen profession.

Students with questions or problems are urged to confer at any time with the administrative staff and the teachers of the College of Engineering. This applies not only to upper division students but also to University College students. During each registration period, Engineering College counselors are available in the University College office to assist pre-engineering students in arranging their schedules.

Students expecting to transfer to the University of Florida as third-year students in the College of Engineering should make every attempt to complete the prerequisites listed under Admission Requirements. Failure to satisfy these requirements may seriously affect the student's progress.

A number of students receive financial assistance through part-time employment as student assistants in the various instructional and research laboratories of the College. Many others find employment elsewhere on the campus or in Gainesville.

There are also several loan funds available to engineering students. Details concerning these may be obtained from the Office of the Dean.

EQUIPMENT

All engineering students are required to procure the following items for their own personal use in addition to prescribed texts:

1) A slide rule
2) An engineering handbook
3) Drawing equipment
4) Dictionary

The student is urged to confer with the head of the appropriate department before purchasing the items listed above. Through such a conference the student will be advised of the specific requirements in the department.

NUCLEAR ENGINEERING OPTION

In order to provide instruction for the new discipline, Nuclear Engineering, the College of Engineering offers a technical elective option in this field. This option may be pursued by any junior in the College of Engineering upon the recommendation of his department head. Other University students may be admitted to the option by the recommendation of their department heads and the Deans o fthe College of Engineering. Courses taken for this option may be substituted for other technical elective requirements.

The option will consist of a series of courses totaling nine (9) credit hours. The courses offered are as follows:

PS. 420—Nuclear Physics	3	
NR. 400—Introduction to Nuclear Engineering	3	
ML. 510—Nuclear Power Reactors, Primarily for IE. and ME. students	3)	
EL. 520—Nuclear Power Reactors, Primarily for EE. students	3)	Select
CG. 530—Nuclear Chemical Engineering, Primarily for ChE. students	3)	One

PS. 321 and NR. 400 are required as six (6) hours of the option.

SUMMER COURSES

In order to assist students who may wish to attend the University throughout the year, the College of Engineering will offer a limited number of courses in each curriculum during the Summer Session of the University. Details will be found in the Catalog of the Summer Session, obtainable from the Office of the Registrar.

FLORIDA ENGINEERING AND INDUSTRIAL EXPERIMENT STATION

The Florida Engineering and Industrial Experiment Station is an integral part of the College of Engineering. It is the research division of the College and the development laboratory for Florida's industries. Its function is to initiate and carry on projects in the several fields of engineering and in industrial development. Research of the Station is aimed particularly toward developing new products from Florida's raw materials and toward assisting in the establishment of new industries in the State.

Undergraduates in the College of Engineering who show promise as research workers may be employed to assist in research work in the Station and to prepare themselves for graduate study.

All students in the College will profit from their association with the engineers engaged in research projects and from the opportunity of seeing the principles of engineering being applied to the solution of fundamental and applied problems.

Graduate students may select fundamental problems involved in research projects of the Station for the subject matter of theses that are required of all graduate students majoring in engineering.

All facilities of the College are available for instructional purposes and for use in research projects.

FLORIDA INDUSTRIES COOPERATIVE PLAN

A number of Florida industries, in cooperation with the College of Engineering, have established a cooperative plan for engineering education which provides for industrial cooperation in educating the engineering student by providing that alternate semesters are spent in learning techniques and industrial applications under supervision in selected industrial or government facilities.

Students may apply for the cooperative program during their freshman year in pre-engineering training by contacting the Dean of the College of Engineering. Acceptance of the student in the program is based upon his academic standing and the availability of a cooperative assignment. Students on the Cooperative Plan will require approximately five years to earn the selected engineering degree since the academic work normally scheduled for the sophomore and junior years is scheduled to require three years. The student normally completes his first and last years of study in residence at the University.

The periods of training in industry are designed to give the student experience as an employee and are intended to be productive as well as educational. He is required to go through the usual employment procedures of interviews, job assignment, training, etc. He draws a salary commensurate with the assignment and his assignments are increased in difficulty each succeeding industrial period to parallel his academic advancement.

Upon assignment to an industry, the cooperative student becomes a member of a two-man team. He alternates with his partner between industrial assignments and his classroom schedules each semester or summer school session. The alternating periods are approximately February 1 to June 15, June 16 to September 15 and September 16 to January 31. One or the other member of the team is always on an industrial assignment so as to give the cooperating industry a continuity in the training program.

Applications may also be made by men in industry who wish to complete their Engineering College course work and need credit for one year or more of college work to earn a degree.

Industrial organizations wishing to cooperate in this plan may communicate with the Dean of the College of Engineering.

Students will register immediately prior to each industrial phase of the program with the College of Engineering for participation in the Florida Industries Cooperative Plan.

COMBINED PLAN OF STUDY IN ENGINEERING AND LIBERAL ARTS

The College of Engineering, in conjunction with certain participating institutions, offers a five year program leading to a Bachelor of Engineering granted by the University

of Florida and a Bachelor of Arts granted by the cooperating institution. Students enrolled in this program attend the participating institution for the first three years of the program and complete their enginering education during the final two years of the program at the University of Florida, College of Engineering.

Inasmuch as this program effects no basic change in the curricula of the College of Engineering, the student is transferred from the participating institution in accordance with established procedures and standards of acceptance at the University of Florida. The student who desires to follow this program may obtain further details from the Dean of the College of Engineering, University of Florida, Gainesville, Florida.

ENGINEERING STUDENTS AND LATIN AMERICAN STUDIES

Students who plan a career in Latin American countries may profitably choose certain electives with a view to familiarizing themselves with Latin American languages and civilization. The permitted free electives may be chosen here wthout formal approval. Further Latin American courses may be taken only if approved as professional electives by the Dean of the College of Engineering.

Suggested Latin American area courses include the following: Spanish language and literature, Brazilian language and literature, Latin American history, government, geography, sociology, and (following general economics) Latin American economics.

ENGINEERING LABORATORIES

The practicality of an engineering education depends in large measure upon the engineering laboratories. A working knowledge of machinery, dynamos, turbines, boilers, microscopes, and measuring equipment—depending upon the branch of engineering chosen—is an inherent part of the student's education. It is, therefore, the aim of the College of Engineering to provide the most modern equipment available so that when the student enters his profession he will be well acquainted with equipment currently in use as well as with the basic principles underlying their function.

To this end the College of Engineering has produced materials and equipment for its laboratories which serve the dual purpose of student instruction and research on new and continuing projects for the Engineering and Industrial Experiment Station. The close coordination of teaching and research in the College of Engineering cannot be overemphasized. Wherever feasible, students are given an opportunity to observe and participate in research projects of the Station. Students who may benefit by additional laboratory work, and who have the necessary educational experience, may be given special permission to carry on individual experimentation in research.

METALLURGICAL RESEARCH LABORATORY

The Metallurgical Research Laboratory has been established as a division of the Florida Engineering and Industrial Experiment Station, to provide research and educational facilities for the growing metallurgical and metal using industries of Florida. Basic research in major fields of Physical Metallurgy is in progress.

An undergraduate degree program in Metallurgical Engineering is being offered under the Department of Mechanical Engineering. Graduate study leading to the degree of Master of Science in Mechanical Engineering with a major in Metallurgy is also available. Some graduate students, undertaking thesis in Metallurgy are participating in the basic research program of the Metallurgical Research Laboratory.

MASTER OF SCIENCE IN ENGINEERING

See the Graduate School section of the *Catalog*.

All instructional departments in the College of Engineering except the Engineering Graphics department offer graduate work leading to the degree of Master of Science in Engineering.

There is considerable demand for engineers with graduate degrees, particularly in research, design and development work, and teaching. The facilities of the College, in-

cluding the Florida Engineering and Industrial Experiment Station, are exceptionally well adapted for graduate study. Any undergraduate student whose scholastic average is well above average is urged to consider seriously the possibility of doing graduate work. The Dean and the various members of the staff of the College will be happy to confer with students in regard to graduate study.

DOCTOR OF PHILOSOPHY DEGREE

The Doctor of Philosophy Degree is awarded in Chemical Engineering, Civil Engineering (Sanitary Engineering and Structural Engineering), Electrical Engineering and Engineering Mechanics. The general requirements for this degree are included in this catalog under The Graduate School. Further details may be secured from the Dean of the Graduate School or the Dean of the College of Engineering.

PROFESSIONAL DEGREES

To meet the need for a continuation of technical education by employees in industry, the University of Florida is making available in various areas of the state a program of advanced studies. Students meeting prescribed requirements will be awarded the appropriate professional degree of Aeronatical Engineer, Chemical Engineer, Civil Engineer, Mechanical Engineer, Industrial Engineer or Electrical Engineer.

Availability of Courses

Wherever a local educational need of sufficient magnitude to provide classes of students qualified for advanced study exists, the University of Florida will attempt to arrange for instruction. In most cases this will mean the employment of qualified professional members of an industrial staff as instructors since the travel time from Gainesville to most industrial centers in Florida is too great for commuting. For a three-credit course the class will meet a total of 150 minutes per week for two 75-minute periods or three 50-minute periods over a semester of 16 to 18 weeks. It is planned, when fully qualified teachers are available, to provide certain course sequences in areas of mathematics, physics, electronics, heat transfer, fluid dynamics, etc., which will be of value to practically all engineers and scientists. Courses that are offered will be chosen from those listed in the current catalog of the University of Florida.

REQUIREMENTS FOR RECEIVING PROFESSIONAL DEGREE

To receive the Professional Degree, the student must complete all of the following requirements:

1. (a) Have a degree from an ECPD accredited curriculum in the field for which he is applying for his professional degree.

   (b) Or, in lieu thereof, have a baccalaureate degree from an accredited College or University and have by subsequent education and professional experience a reasonable equivalent or requirement 1. (a).

2. (a) Have five years of satisfactory experience in industry of engineering practice, the last two years of which should show that he has had a degree of responsibility.

   (b) Or, in lieu thereof, he shall have received registration as a Professional Engineer by the State of Florida.

3. Complete a program of courses approved by the appropriate department of the University which shall include 15 hours of courses numbered above 500.

   A student not having a baccalaureate degree in the discipline in which the professional degree is desired must complete a minimum of at least nine hours in this discipline. Thus a student who has received a Bachelor of Civil Engineering degree and later has excellent professional experience in electrical engineering must secure nine hours of Electrical Engineering course work to meet the requirements for an E. E. degree.

   Not more than six hours of transfer credit will be allowed and these must have been taken subsequent to receiving the baccalaureate degree and be of a nature satisfactory to the department involved.

4. Present a thesis on a subject approved by the department head involved. This thesis may be an analytical report, a design problem, a cost investigation, a resarch or planning study, or other appropriate work involving engineering responsibility. This thesis may be a publication or may be based on work in connection with the student's employment.
5. Satisfactorily pass an examination upon the thesis and professional work. This examination cannot be given until three months after the student has received written approval on the subject of his thesis by the department head involved.
6. Make formal application to the Registrar for the particular degree. Such application must be made within the first six weeks of the semester at which the degree is to be conferred.

PLANNING OF PROGRAM

The program must be preplanned with the help of an adviser to be assigned by the College of Engineering. This procedure should be completed early in the program and must be taken care of not later than the completion of six semester hours of study. The course work for the professional degree should represent an integrated program showing a clear objective. After being admitted the student should make formal application to the College of Engineering for acceptance as a candidate for the professional degree.

ADMISSION TO THE PROGRAM

After it has been determined that sufficient students are available and a program has been planned for the area, the interested student should:

1. Apply to the Director of Admissions at the University of Florida for the special admission forms for this program.
2. Submit completed forms to the Director of Admissions.
3. Request that transcripts be sent from the Registrar's Office of previous colleges as indicated on the admissions application blank.

Students must meet all regular undergraduate admission requirements to the University of Florida. Because of the advanced nature of the program individual applications and transcripts will be reviewed by a faculty committee of the College of Engineering to determine if the applicant's academic background is sufficient to pursue the work.

Since many students are not clear as to their objectives in advanced study until they have completed one or two courses, the University will permit a student to register for the first six semester hours of this program without making formal application to the College of Engineering for candidacy for a professional degree. Before registering beyond six semester hours the student must declare, by filling out the appropriate form, his intention of becoming a candidate for a specified professional degree.

A representative of the College of Engineering will be made available for counseling.

Admission to the Graduate School is not a prerequisite for taking courses in the Engineering Professional Degree Program. For information pertaining to degrees of Master of Science and Doctor of Philosophy, contact should be made with the Dean of the Graduate School.

A student's registration is not complete until an official registration card has been completed and the fee has been paid. The deadline for completing registration for a course is the first regular meeting of the class.

A candidate for a professional degree must make application to the Dean of the College of Engineering prior to the beginning of the semester in which he expects to have the degree conferred. He must also make application for a degree to the Registrar in accordance with the dates specified in the University Calendar. If the candidate appears to satisfy requirements listed in section (1) above, the appropriate department, with the approval of the Dean, will appoint a committee which shall satisfy itself that the candidate has fulfilled all requirements for the degree and shall report its recommendations to the department. The faculty of the College of Engineering has final authority to recommend to the President and the Board of Control the conferring of the degree.

HONOR STUDENTS

Honor Student Designation.—To be eligible for the designation of Honor Student in the College of Engineering a student must have earned an honor point average of 3.20 or

higher in all work taken of the Upper Division. To be eligible for such designation he must also have been registered in the College of Engineering for at least one semester and have received credit for a minimum of 16 hours of work. A student who meets these requirements will be notified in writing by the Dean's Office.

An Honor Student, so long as he maintains the necessary scholastic standing, may be granted by the Dean, upon recommendation of the department head, certain privileges.

Graduation with Honors.—To graduate with Honors, a student must have completed the work of the Upper Division and must have received an honor point average of 3.20 or higher in all work of the Upper Division.

Graduation with Honors is not dependent upon the student's having been designated as an Honor Student, nor does such designation insure subsequent graduation with Honors.

Graduation with High Honors.—A student may be graduated with High Honors provided he meets the following requirements:

A. (1) Has secured an honor point average of at least 3.40 in all work taken of the Upper Division.

(2) Commences work on a High Honors project normally two semesters prior to graduation but, in any case, not later than the beginning of his last semester.

(3) Completes this independent work and presents a thesis satisfactory to the committee and to the faculty of the College.

(4) Satisfactorily passes a comprehensive examination given him by his committee. This examination shall, in general, be on an oral type. Final date for this examination shall be no later than 14 days prior to the date of convocation.

Or

B. In those cases where a student will apparently secure an honor point average of 3.80 or higher in work taken of the Upper Division, he may, upon recommendation of the department head and approval of the Dean, be invited to appear before a special committee for an examination. This examination shall be administered not later than 14 days prior to thedate of convocation. The committee will report its findings to the Dean through the department head, after which the student may be considered for recommendation by the faculty of the College of Engineering for graduation with High Honors. In such cases, graduation with High Honors is not on a scholastic basis alone, but is also based upon breadth of knowledge as evidenced by the satisfactory completion of the comprehensive examination.

Credit may be obtained for High Honors project work by prior registration in courses numbered 497 and 498 carrying the appropriate departmental prefix. Credit in each of these courses is variable from zero to three hours and must be determined at the time of registration. The total credit allowed for High Honors work shall in no case exceed a total of three credit hours.

A copy of the detailed regulations governing graduation with High Honors may be obtained from the Office of the Dean.

COLLEGE REGULATIONS

English Requirement.—Responsibility for the correct and effective use of his spoken and written English rests primarily upon the student. Any instructor in the College of Engineering may, at any time, with the approval of the head of his department and the Dean of the College of Engineering, require a student who shows a deficiency in English to complete additional courses, over and above the curriculum requirements for his degree.

All students entering the College of Engineering are required to pass an English examination administered by the Department of English's advisor to the College of Engineering. This examination is to be taken by the student during his first regular semester of enrollment in the College of Engineering. All undergraduate students are to comply with this requirement. The examination is offered during the first two weeks of classes and posted on the bulletin boards.

Students who do not pass this examination are required to complete the course, EH 212, 2 credits, with the grade of "C" or better. Special sections of this course are offered for engineering students in the Engineering and Industries Building. This requirement is a requirement for graduation and EH 212 is course work over and above the regular course work specified for the degree.

Thesis.—Theses are not required of candidates for the baccalaureate degree in the College of Engineering. However, exceptional students may be granted permission by the Dean of the College, upon recommendation of the head of the department, to undertake a thesis in lieu of required or elective work in the department in which he is enrolled. Not more than four semester hours will be allowed for such thesis work.

Guidance Examinations.—On admission to the College of Engineering, each student may be required to take an examination in subjects prerequisite to engineering, including English, Mathematics and Physics. The results of this examination will be made available to his departmental counselor for guidance and for the early scheduling of remedial course work where necessary.

Credit for Special Work.—

1) Upon the recommendation of the head of the department and the approval of the Dean, a student during his course of study may do practical work under competent supervision in industry. By submitting a satisfactory report, based upon a previously approved outline, and by passing an examination, he may receive college credit not to exceed *3 semester hours.* Courses numbered 497 and/or 498, carrying the appropriate department prefix, are to be used to designate this credit.

2) Where it is determined by the department concerned that an exceptional student may profit by supplementing his regular program of course work in a particular area, the student may register for special problems in his chosen field. The credit for such work should not exceed *6 semester hours* and requires approval of the Dean of the College of Engineering. Such special work will be designated by use of the course numbers of 497 and/or 498 with the appropriate department prefix and each course may vary in credit value from 0 to 3 credits.

3) The use of special course work (courses 497 and 498) for the undregraduate program is limited to a cumulative maximum of 6 semester hours, including special work for High Honors, practical experience, and special problems.

Average Required for Graduation.—The requirements for graduation with a Bachelor's degree is a composite average of "C" or higher in all work required in the Upper Division of the College of Engineering as well as work taken while registered in the College of Engineering.

Plant Trip Requirement.—Candidates for the Bachelor's degree may be required by their department to take part in a plant inspection trip. Details concerning this requirement should be secured by each student from the head of the department in which he is enrolled.

ADMISSION REQUIREMENTS

To be admitted to the College of Engineering the student should present a certificate of graduation from the University College or the equivalent and be certified by the Entrance Committee of the College of Engineering as qualified to pursue a curriculum leading to a degree in engineering. A student in the University College must choose the proper prerequisite subjects for his professional courses if he desires to graduate in minimum time. Furthermore, he must assume full responsibility for registering for all required courses in their proper sequence and for fulfilling all requirements for admission to the College of Engineering.

Listed below is a presentation of that work which may be taken by pre-engineering students. The *required* course work for admission to upper division, College of Engineering is annotated with *(R)*. A student must complete a minimum of 64 semester hours of University level work, including the required course work, *(R)*, for admission to the College of Engineering.

		Semester Hours
(R)	C-11, 12, American Institutions	8
*	C-21, 22, The Physical Sciences	6
(R)	C-31, 32, Reading, Speaking & Writing	8
*	C-41, 42, Logic and Mathematics	6
(R)	C-51, 52, Humanities	8
(R)	EGR-180, 181, 182, Engineering Graphics	6
*	CY-215, Introductory Chemistry	3
(R)	CY-217, 218, General Chemistry and Qualitative Analysis	8

*	MS-205,	Basic Mathematics	3
***(R)	MS-206,	Basic Mathematics	5
(R)	MS-353,	Differential Calculus	5
(R)	PS-205-7,	General Physics and Laboratory	4
(R)	MY (or semester hour equivalent) Military).		4

(R) Specifically required course work—56 semester hours

(**) Total required semester hours, U. D. admission—64 semester hours

*This course work, while considered University level work is not required for admission to the College of Engineering. It can, however, be used as part of the 64 hour requirement.

**Where students are qualified and where professional level course work is available (as evidenced by engineering curriculum accredited by ECPD, Engineers Council for Professional Development), students can use this work to complete lower division semester hour requirements.

***In cases where students, on the basis of superior placement test grades, are allowed to omit starred courses, they will need to take, while enrolled in lower division, an equivalent amount of more advanced work in order to be eligible for admission to the College of Engineering. (Reference **)

Since engineering courses numbered 400 and higher are of professional nature, only students registered in the Engineering College may enroll in such courses except by special permission in writing from the Dean of the College of Engineering.

Regulations pertaining to admission to graduate study are given in detail in the section of the catalog devoted to the graduate division. Students who do not meet the requirements for unqualified admission to graduate study under these regulations, may apply to the College for the planning of a trial program. If accepted by the College, the applicant will be registered as a 5th year student and given a program of about 15 semester hours involving advanced undergraduate courses and including not more than six semester hours of graduate work. Upon completion of this program with an average grade of "B," the student will be given unqualified admission to the graduate school. Up to 12 hours of the trial program may be credited to his graduate record. The trial program will not be continued beyond the original planned period.

RESEARCH PROGRAM AT TTHE OAK RIDGE INSTITUTE OF NUCLEAR STUDIES

The University of Florida is one of the Sponsoring Universities of the Oak Ridge Institute of Nuclear Studies located at Oak Ridge, Tennessee. Through this cooperative association with the Institute, our Graduate Research Program has at its disposal all the facilities of the National Laboratories in Oak Ridge and of the research staffs of these laboratories. When a master's or doctoral candidate has completed his resident work, it is possible, by special arrangement, for him to go to Oak Ridge to complete his research problem and prepare a thesis. In addition, it is possible for the staff members of this University to go to Oak Ridge for varying periods, usually not less than three months, for advanced study in their particular fields. Thus, both staff and students may keep abreast of the most modern and up-to-date developments in atomic and nuclear research that is in progress at the Oak Ridge laboratories.

The students will go to Oak Ridge on Oak Ridge Graduate Fellowships which have varying stipends determined by the number of dependents they have and the level of work that they are doing. Staff members may work in Oak Ridge on stipends commensurate with their present salary and rank.

A copy of the bulletin and announcement of the Graduate Training Program of the Oak Ridge Institute of Nuclear Studies is available in the office of the Dean of the Graduate School. Should you be interested, ask for this bulletin at his office, and he will be glad to assist you in making an application for an Oak Ridge Fellowship. If you prefer you may request a bulletin by writing to the Chairman of the University Relations Division of the Oak Ridge Institute of Nuclear Studies, Box 117, Oak Ridge, Tennessee.

All arrangements for these fellowships will be made between the Dean of the Graduate School and the Institute of Nuclear Studies.

The Florida Engineering and Industrial Experiment Station is not only the research division of the College of Engineering but it is also the development laboratory for the

industries of the State. It was officially established in 1941 by the Legislature as an integral part of the College of Engineering "to organize and promote the prosecution of research projects of engineering and related sciences, with special reference to such of these problems as are important to the industries of Florida."

The facilities of the Station include all the equipment of the College of Engineering, now valued at more than $3,000,000, not including government owned equipment. The Station also has available for its use the laboratories, staff and facilities of other divisions of the University. Because of the close relations that exist between teaching and research activities, students secure much practical information about engineering and industrial problems which would normally not be encompassed in a collegiate program.

The Station receives only a small portion of its operating revenue from the State. The remainder is derived from contracts with federal agencies and industrial organizations. Large and small manufacturers avail themselves of one of the finest research laboratories in the Southeast. Among the outstanding laboratories, in addition to a well equipped shop, are those in Public Health Engineering; Electronics; Ionics; Metallurgy; Chemical Engineering; Air Conditioning; Soil Mechanics; Electrical Machinery; Paper, Pulp, and Wood Products Utilization; Farm Mechanization; Corrosion; Aircraft Model Wind Tunnel; Reinforced and Prestressed Concrete; Hurricane Tests and Building Material; Coastal Engineering Laboratory; Cobalt Source, and Nuclear Reactors.

ENGINEERING

The program for the first and second year students expecting to earn a degree in the College of Engineering will vary depending upon the individual student's capabilities. The program of the College of Engineering is a *five year program;* however, superior students are urged to accelerate their programs. *Students should work closely with their counselor in planning their pre-engineering programs.*

One example of the first and second year of a five year plan:

FIRST YEAR

FIRST SEMESTER	*Credits*
1.—C-11, American Institutions	4
2.—C-31, Reading, Speaking and Writing: Freshman English	4
*3.—MS-205, Basic Mathematics	3
**4.—EGR-181, Engineering Drawing	2
5.—EGR-180, Engineering Concepts and Studies	1
6.—MY-101, Military Science	1
7.—PL-101, Physical Fitness	0
	15

SECOND SEMESTER	*Credits*
1.—C-12, American Institutions	4
2.—C-32, Reading, Speaking and Writing: Freshman English	4
*3.—MS-206, Basic Mathematics	5
**4.—EGR-182, Descriptive Geometry	3
5.—MY-102, Military Science	1
6.—PL-102, Physical Fitness	0
	17

SECOND YEAR

THIRD SEMESTER	*Credits*
1.—C-51, The Humanities	4
2.—MS-353, Differential Calculus	5
3.—CY-217, General Chemistry and Qualitative Analysis	4
4,—MY-201, Military Science	1
5.—PL-103, Physical Fitness	0
	14

FOURTH SEMESTER	*Credits*
1.—C-52, The Humanities	4
2.—MS-354, Integral Calculus	3
3.—CY-218, General Chemistry and Qualitative Analysis	4
4.—PS-205, General Physics	3
5.—PS-207, Laboratory for Physics	1
6.—MY-202, Military Science	1
7.—PL-104, Physical Fitness	0
	16

One example of the first and second year for an accelerated (4 year) plan for *superior* students:

FIRST YEAR

FIRST SEMESTER

	Credits
1.—C11, American Institutions	4
2.—C-31, Reading, Speaking and Writing: Freshman English	4
*3.—MS-206, Basic Mathematics	5
4.—EGR-180, Engineering Concepts and Studies	1
**5.—EGR-181, Engineering Drawing	2
6.—CY-217, General Chemistry and Qualitative Analysis	4
7.—MY-101, Military Science	1
8.—PL-101, Physical Fitness	0
	21

SECOND SEMESTER

	Credits
1.—C-12, American Institutions	4
2.—C-32, Reading, Speaking and Writing: Freshman English	4
3.—MS-353, Differential Calculus	5
**4.—EGR-182, Descriptive Geometry	3
5.—CY-218, General Chemistry and Qualitative Analysis	4
6.—MY-102, Military Science	1
7.—PL-102, Physical Fitness	0
	21

SECOND YEAR

THIRD SEMESTER

	Credits
1.—C-51, The Humanities	4
2.—MS-354, Integral Calculus	3
3.—PS-205, General Physics	3
4.—PS-207, Laboratory for Physics	1
5.—Specially Assigned Upper Division Course Work	6 or 9
6.—PL-103, Physical Fitness	0
	17 or 20 Hours

FOURTH SEMESTER

	Credits
1.—C-52, The Humanities	4
2.—MS-420, Differential Equations	3
3.—PS-206, General Physics	3
4.—PS-208, Laboratory for Physics	1
5.—EM-365, Engineering Mechanics Statics	3
6.—Specially Assigned Upper Division Course Work	3 or 6
7.—PL-104, Physical Fitness	0
	17 or 20 Hours

*In cases where students, on the basis of superior placement test grades, are allowed to omit starred courses, they will need to take an equivalent amount of more advanced work in order to be eligible for admission to the College of Engineering at the end of the second year.

**Drawing equipment required for EGR-181, EGR-182, and subsequent courses costs approximately thirty dollars.

Students whose records in the University College do not indicate that they are qualified to take the professional courses in Engineering will not be admitted to the College of Engineering.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF AERONAUTICAL ENGINEERING

FIRST YEAR

	Credits
C-11, 12—American Institutions	8
*C-21, 22—The Physical Sciences	6
C-31, 32—Reading, Speaking, Writing Freshman English	8
*C-41—Practical Logic	3
*MS. 205—Basic Mathematics	3
CY. 217—General Chemistry	4
MY. 101-102—Military Science	2
PL. 101-102—Physical Fitness	0
	34

SECOND YEAR

	Credits
C-51, 52—The Humanities	8
CY. 218—General Chemistry and Qualitative Analysis	4
*MS. 206—Basic Mathematics	5
MS. 353—Differential Calculus	5
EGR. 180-181-182—Engineering Graphics	6
PS. 205-7—General Physics	4
MY. 201-202—Military Science	2
PL. 103-104—Physical Fitness	0
	34

THIRD, FOURTH, FIFTH YEARS				Credits
(X)	MS.	354	Integral Calculus	3
(X)	PS.	206-8	General Physics	4
(X)	EGR.	232	Mechanisms and Kinematics	3
(X)	PS.	303	Modern Physics	3
(X)	MS.	420 or 521	Differential Equations	3
(X)	AN.	240	Aircraft, Materials & Processes	3
(X)	EM.	365	Statics	3
	EM.	366	Dynamics	3
	EM.	367	Strength of Materials	3
	CL.	368	Strength of Materials Laboratory	1
	ML.	377	Manufacturing Operations	4
	ML.	385	Thermodynamics I	3
	AN.	301	Introductory Aerodynamics	3
	AN.	302	Intermediate Aerodynamics	3
	AN.	312	Subsonic Wind Tunnel Lab.	1
	AN.	342	Aircraft Structural Analysis	3
	AN.	360	Aircraft Propulsion	3
	AN.	403	Aerodynamics	3
	AN.	413	Flt. & Supersonic Wind Tunnel Lab	1
	AN.	431	Intro. to Aeroelasticity	3
	AN.	443	Aircraft Structures I	3
	AN.	444	Aircraft Structures II	3
	AN.	454	Aircraft Structures Lab.	1
	AN.	461	Supersonic Flight Propulsion	4
	AN.	485	Aircraft Design	3
	AN.	486	Aircraft Design	3
	AN.	491	Seminar	1
	AN.	492	Seminar	1
	EL.	341	Electrical Engineering	3
	EL.	342	Electrical Engineering	3
	EL.	349	Electrical Engineering Lab.	1
	EL.	350	Electrical Engineering Lab.	1
			**Approved Electives	9
				92

Lower Division Credit Hours	68
Upper Division Credit Hours	92
TOTAL	160*

*Depending on his high school preparation and placement test scores, a student's program may be accelerated by waiving any or all of those courses, C-21, C-22, C-41, MS. 105, and MS. 106. Where any of these courses are waived, the total credits required for graduation are decreased accordingly. Students are advised to consult engineering counselors prior to registration to consider waiver of any required course. Courses designated by (X) should be completed during the first two years of residence by those students on the accelerated program.

**A student must take at least six (6) hours in the area of non-technical electives.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF AGRICULTURAL ENGINEERING

FIRST YEAR	Credits
C-11, 12—American Institutions	8
*C-21, 22—The Physical Sciences	6
C-31, 32—Reading, Speaking, Writing: Freshman English	8
*C-41—Practical Logic	3
*MS. 205-206—Basic Mathematics	8
MY. 101-102—Military Science	2
PL. 101-102—Physical Fitness	0
	35

SECOND YEAR	Credits
C-51, 52—The Humanities	8
CY. 217-218—General Chemistry and Qualitative Analysis	8
MS. 353—Differential Calculus	5
EGR. 180-181-182—Engineering Graphics	6
PS. 205-207—General Physics	4
MY. 201-202—Military Science	2
PL. 103-104—Physical Fitness	0
	33

THIRD, FOURTH, FIFTH YEARS				Credits
(X)	MS.	354	Integral Calculus	3
(X)	PS.	206-8	General Physics	4
(X)	BTY.	180	Elementary Botany	4
(X)	AL.	309	Principles of Animal Husbandry	3
(X)	EM.	365	Engineering Mechanics—Statics	3
(X)	CL.	223	Surveying	3
	AY.	221	General Field Crops	3
	GY.	203	Elements of Physical Geology	3
	SLS.	301	Soils	4
	EL.	343	Elements of Electrical Engineering	3
	ML.	385	Thermodynamics I	3
	ML.	387	Mechanical Laboratory I	1
	ML.	489	Manufacturing Operations I	3
	EM.	313	Fluid Mechanics	
	or			
	EM.	327	Hydraulics	4
	EM.	366	Engineering Mechanics—Dynamics	3
	EM.	367	Strength of Materials	3
	EM.	368	Strength of Materials Laboratory	1
	EGR.	282	Mechanisms and Kinematics	3
	MS.	420	Differential Equations	3
	AG.	315	Agricultural Drainage and Irrigation Engineering	3
	AG.	318	Agricultural Field Machines	3
	AG.	403	Special Topics	2
	AG.	409	Seminar	1
	AG.	412	Agricultural Tractors and Power Units	4
	AG.	415	Soil and Water Conservation Engineering	3
	AG.	418	Farm Structures and Equipment	4
	AG.	435	Agricultural Process Engineering	4
	AS.	306	Farm Management	3
			Electives	12
				96

Lower Division Credit Hours	68
Upper Division Credit Hours	96
	164*

*Depending on his high school preparation and placement test scores, a student's program may be accelerated by waiving any or all those courses, C-21, C-22, C-41, MS. 105, and MS. 106. Where any of these courses are waived, the total credits required for graduation are decreased accordingly. Students are advised to consult engineering counselors prior to registration to consider waiver of any required course. Courses designated by (X) should be completed during the first two years of residence by those students on the accelerated program.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF CHEMICAL ENGINEERING

FIRST YEAR	Credits
C-11, 12—American Institutions	8
*C-21, 22—The Physical Sciences	6
C-31, 32—Reading, Speaking, Writing: Freshman English	8
*C-41—Practical Logic	3
*MS. 205—Basic Mathematics	3
CY. 217—General Chemistry	4
MY. 101-102—Military Science	2
PL. 101-102—Physical Fitness	0
	34

SECOND YEAR	Credits
C-51, 52—The Humanities	8
CY. 218—General Chemistry and Qualitative Analysis	4
*MS. 206—Basic Mathematics	5
MS. 353—Differential Calculus	5
EGR. 180-181-182—Engineering Graphics	6
PS. 205-207—General Physics	4
MY. 201-202—Military Science	2
PL. 103-104—Physical Fitness	0
	34

THIRD, FOURTH, FIFTH YEARS				Credits
(X)	MS.	354	Integral Calculus	3
(X)	PS.	206-8	General Physics	4
(X)	CG.	347-8	Industrial Stoichiometry & Fuels	7
(X)	CY.	331	Quantitative Analysis	4
(X)	EM.	365	Statics	3
(X)	MS.	420	Differential Equations	3
	CG.	355	Principles of Chemical Engineering I	3
	CG.	356	Principles of Chemical Engineering II	3
	CG.	364	Chemical Engineering Thermodynamics	3
	CG.	401	Instrumentation	
	or			
	ML.	384	Metallography	3
	CG.	442	Seminar	1
	CG.	443-4	Chemical Engineering Laboratory	4
	CG.	451	Chemical Engineering Economics	3
	CG.	457	Principles of Chemical Engineering III	3
	CG.	465	Chemical Engineering Thermodynamics	3
	CG.	472	Chemical Kinetics and Processing	4
	CG.	474	Project Engineering of Chemical Processes	2
	CY.	301-2	Organic Chemistry	8
	CY.	401-2-5-6	Physical Chemistry	8
	CY.	481	Chemical Literature	1
	EL.	343	Elements of Electrical Engineering	3
	EM.	369	Strength of Materials	3
	IG.	451	Quality Control	3
	PS.	303	Modern Physics	
	or		Nuclear Physics	3
	PS.	420	**Approved Electives	9
				94

Lower Division Credit Hours	68
Upper Division Credit Hours	94
TOTAL	162*

*Depending on his high school preparation and placement test scores, a student's program may be accelerated by waiving any or all of those courses, C-21, C-22, C-41, MS. 105, and MS. 106. Where any of these courses are waived, the total credits required for graduation are decreased accordingly. Students are advised to consult engineering counselors prior to registration to consider waiver of any required course. Courses designated by (X) should be completed during the first two years of residence by those students on the accelerated program.

**Approved electives may include at least 6 credit hours of new-technical subject matter.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF CIVIL ENGINEERING

FIRST YEAR	Credits
C-11, 12—American Institutions	8
*C-21, 22—The Physical Sciences	6
C-31, 32—Reading, Speaking, Writing: Freshman, English	8
*C-41—Practical Logic	3
*MS. 205—Basic Mathematics	3
CY. 217—General Chemistry	4
MY. 101-102—Military Science	2
PL. 101-102—Physical Fitness	0
	34

SECOND YEAR	Credits
C-51, 52—The Humanities	8
CY. 218—General Chemistry and Qualitative Analysis	4
*MS. 206—Basic Mathematics	5
MS. 353—Differential Calculus	5
EGR. 180-181-182—Engineering Graphics	6
PS. 205-207—General Physics	4
MY. 201-202—Military Science	2
PL. 103-104—Physical Fitness	0
	34

THIRD, FOURTH, FIFTH YEARS

				Credits
(X)	MS.	354	Integral Calculus	3
(X)	PS.	206-8	General Physics	4
	PS.	303	Modern Physics	3
	MS.	420	Differential Equations	3
(X)	EM.	365	Engineering Mechanics—Statics	3
(X)	CL.	226	Surveying	4
	EM.	367	Strength of Materials	3
	CL.	326	Statics of Simple Structures	4
	EM.	327	Hydraulics	4
	CL.	329	Water Supply and Treatment	3
	CL.	323	Materials Laboratory	3
	CL.	366	Dynamics	3
	CL.	338	Statically Indeterminate Structures	3
	CL.	429	Sewerage	3
	ML.	381	Elementary Heat Power	3
	GY.	210	Engineering Geology	3
	EL.	343	Elements of Electrical Engineering	3
	CL.	433	Reinforced Concrete Design	4
	CL.	435	Design in Metals and Timber	4
	CL.	412	Civil Engineering Seminar	1
	CL.	439	Highway Location and Drainage	3

GENERAL CIVIL ENGINEERING OPTION

CL.	424	Soil Mechanics	3
CL.	443	Foundations	3
CL.	450	Highway Construction and Materials	3
CL.	444	Construction Methods and Estimating	3
		Approved Non-Technical Electives	5
		Approved Technical Electives	9
			93

MUNICIPAL AND SANITARY ENGINEERING OPTION

BCY.	300	Bacteriology	3
CY.	315	Chemistry of Water Treatment	3
		Approved Non-Technical Electives	5
		**Approved Technical Electives	12
CY.	316	Chemistry of Water Treatment	1
			91

Lower Division Credit Hours	68
Upper Division Credit Hours	
General Civil Engineering Option	93
Municipal and Sanitary Engineering Option	91
TOTAL	*161-159

*Depending on his high school preparation and placement test scores, a student's program may be accelerated by waiving any or all of those courses, C-21, C-22, C-41, MS. 105, MS. 106. Where any of these courses are waived, the total credits required for graduation are decreased accordingly. Students are advised to consult engineering counselors prior to registration to consider waiver of any required course. Courses designated by (X) should be completed during the first two years of residence by those students on the accelerated program.

**CL. 424 or CL. 415 and CL. 422, CL. 427, CL. 525, CL. 443 are recommended electives.

CL. 443, Foundations and Harbor Structures, may be taken only if the prerequisite course, CL. 424 has been taken.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF ELECTRICAL ENGINEERING

FIRST YEAR	Credits
C-11, 12—American Institutions	8
*C-21, 22—The Physical Sciences	6
C-31-32—Reading, Speaking, Writing: Freshman, English	8
*C-41—Practical Logis	3
*MS. 205—Basic Mathematics	3
CY. 217—General Chemistry	4
MY. 101-102—Military Science	2
PL. 101-102—Physical Fitness	0
	34

SECOND YEAR	Credits
C-51, 52—The Humanities	8
CY. 218—General Chemistry and Qualitative Analysis	4
*MS. 206—Basic Mathematics	5
MS. 353—Differential Calculus	5
ERG. 180-181-182—Engineering Graphics	6
PS. 205-207—General Physics	4
MY. 201-202—Military Science	2
PL. 103-104—Physical Fitness	0
	34

			THIRD, FOURTH, FIFTH YEARS	Credits
(X)	MS.	354	Integral Calculus	3
(X)	PS.	206-8	General Physics	4
	PS.	303	Modern Physics	3
(X)	EL.	211	Introduction to Electrical Engineering	3
(X)	EM.	365	Engineering Mechanics—Statics	3
	EM.	366	Engineering Mechanics—Dynamics	3
	EM.	367	Strength of Materials	3
	ML.	381	Elementary Heat Power	3
(X)	EL.	361	Electric Circuits I	3
	EL.	362	Electric Circuits II	3
	EL.	302	Electric Circuits Laboratory	1
	EL.	364	Electric Circuits III	3
	EL.	346	Electronics I	3
	EL.	306	Electronics Laboratory I	1
	EL.	363	Electrical Machinery I	3
	EL.	313	Electrical Machinery Laboratory I	1
	MS.	423	Mathematics for Electrical Engineering	3
	EL.	373	Electronics II	3
	EL.	323	Electronics Laboratory II	1
	EL.	464	Introduction to Electromagnetic Theory	3
	EL.	467	Electric Machinery II	3
	EL.	407	Electric Machinery Laboratory II	1
	EL.	465	Communication Engineering I	3
	EL.	405	Communication Engineering Laboratory I	2
	EL.	441	Electrical Engineering Seminar	1
	IG.	463	Specifications, Contracts, Ethics and Industrial Safety	3
	EL.	472	Electrical Engineering Problems	3
			**Electives	20
				89

Lower Division Credit Hours	68
Upper Division Credit Hours	89
TOTAL	157*

*Depending on his high school preparation and placement test scores, a student's program may be accelerated by waiving any or all of those courses. C-21, C-22, C-41, MS. 105, and MS. 106. Where any of these courses are waived, the total credits required for graduation are decreased accordingly. Students are advised to consult engineering counselors prior to registration to consider waiver of any required course. Courses designated by (X) should be completed during the first two years of residence by those students on the accelerated program.

**All students are required to select either EL. 466—3 credits with corequisite laboratory EL. 406—2 credits; or EL. 468—3 credits, with corequisite laboratory EL. 408— 2

credits, depending on whether their interests are in the Communications or Power fields. Of the 15 remaining electives, at least 6 hours shall be non-technical, and at least 3 hours shall be in Mathematics and the remainder from the approved technical list.

ENGINEERING SCIENCES PROGRAM

The curriculum in Engineering Sciences is designed to give special attention to those superior students who wish to pursue a program of studies which includes more of the physical sciences and the engineering sciences than is offered in the specialized fields of engineering. If study is terminated at the baccalaureate level, graduates would be prepared to engage in certain research and development activities requiring a general rather than a specialized background. Research laboratories and industries doing work of a pioneering nature in the development of new products have expressed a need for men with this training.

It is expected that many graduates of the Engineering Science Program will wish to continue study at the graduate level in order to further prepare themselves for research and development or teaching.

Each student selected for this program will be assigned an advisory committee by the Engineering Sciences Committee of the College of Engineering. The function of the advisory committee is to assist the student in the development of his program of studies within the framework of the Engineering Sciences Program, and to provide counsel and guidance in his undergraduate development. The student will participate in honors sections of course work, where available, and will submit a thesis on an appropriate subject prior to his graduation.

Students should apply for admission to the Engineering Sciences Program upon completion of their freshman year. To be considered for admission, a student should have a minimum of a 3.00 or "B" average. Qualified students who have taken course work at institutions other than the University of Florida will be considered for this program. Forms for making applications for the Engineering Sciences Program may be obtained from the Office of the Dean, College of Engineering.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF ENGINEERING SCIENCES

FIRST AND SECOND YEARS

Students planning to pursue the Engineering Sciences Curriculum will compete a minimum of 64 semester hours. In addition to the regular prescribed course requirements for admission to the College of Engineering, students shall complete MS. 354, Integral Calculus; PS. 206-8, General Physics; EM. 365, Statics; and such additional courses as prescribed by the student's Advisory Committee.

THIRD AND FOURTH YEARS

The Engineering Sciences Program will consist of 81 semester hours of work encompassing the areas outlined below. The student's Advisory Committee will prepare a curriculum for the student, some of which may be taken in the lower division. Not less than 30 semester hours of course work will be at the "400" course level or above.

	Credit Hours
Mathematics (exclusive of the specified mathematics)	9
Thermodynamics, Transfer, Rate Mechanisms and Fluid Flow	12
Electrical Sciences	13
Nature and Properties of Matter	15
Engineering Mechanics, System Analysis, or Design	12
Non-Technical Electives	6
Technical Electives	12
Seminar	2
Program Requirements	81
MINIMUM TOTAL CREDIT HOURS FOR BACHELOR OF ENGINEERING SCIENCES	145

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF INDUSTRIAL ENGINEERING

FIRST YEAR	Credits
C-11, 12—American Institutions	8
*C-21, 22—The Physical Sciences	6
C-31, 32—Reading, Speaking, Writing: Freshman, English	8
*C-41—Practical Logic	3
*MS. 205—Basic Mathematics	3
CY. 217—General Chemistry	4
MY. 101-102—Military Science	2
PL. 101-102—Physical Fitness	0
	34

SECOND YEAR	Credits
C-51, 52—The Humanities	8
CY. 218—General Chemistry and Qualitative Analysis	4
*MS. 206—Basic Mathematics	5
MS. 353—Differential Calculus	5
EGR. 180-181-182—Engineering Graphics	6
PS. 205-207—General Physics	4
MY. 201-202—Military Science	2
PL. 103-104—Physical Fitness	0
	34

THIRD, FOURTH AND FIFTH YEARS

(X)	MS.	354	Integral Calculus	3
(X)	PS.	206-8	General Physics	4
(X)	EM.	365	Engineering Mechanics—Statics	3
(X)	EGR.	282	Mechanisms and Kinematics	3
(X)	IG.	201	Introduction to Industrial Engineering	2
	ES.	201-2	Basic Economics	6
	ATG.	211-12	Elementary Accounting	6
	EL.	341-342	Elements of Electrical Engineering	6
	EL.	349-350	Electrical Laboratory	2
	EM.	366	Engineering Mechanics—Dynamics	3
	EM.	367	Strength of Materials	3
	ML.	377	Manufacturing Operations	4
	IG.	371	Job Analysis and Evaluation	2
	IG.	372	Time and Motion Study	3
	ATG.	313	Industrial Accounting	3
	IG.	481	Industrial Engineering Projects	3
	IG.	460	Engineering Economy	3
	MS.	463 or	Quality Control	3
	MS.	420	Differential Equations	
	ML.	385 or	Thermodynamics I	3
	ML.	381	Heat Power	
	PS.	303	Modern Physics	3
	IG.	469	Plant Location, Selection and Layout	4
	IG.	470	Plant Operation and Control	4
	IG.	472	Human Engineering	2
	IG.	463	Specifications, Contracts, Ethics and Industrial Safety	3
	IG.	479	Industrial Engineering Seminar	1
			Approved Electives	9
				91

Lower Division Credit Hours 68
Upper Division Credit Hours 91

TOTAL.....159*

*Depending on his high school preparation and placement test scores, a student's program may be accelerated by waiving any or all of those courses, C-21, C-22, C-41, MS. 105, and MS. 106. Where any of these courses are waived, the total credits required for graduation are decreased accordingly. Students are advised to consult engineering counselors prior to registration to consider waiver of any required course. Courses designated by (X) should be completed during the first two years of residence by those students on the accelerated program.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF MECHANICAL ENGINEERING

FIRST YEAR	Credits
C-11, 12—American Institutions	8
*C-21, 22—The Physical Sciences	6
C-31, 31—Reading, Speaking, Writing: Freshman English	8
*C-41—Practical Logic	3
*MS. 205—Basic Mathematics	3
CY. 217—General Chemistry	4
MY. 101-102—Military Science	2
PL. 101-102—Physical Fitness	0
	34

SECOND YEAR	Credits
C-51, 52—The Humanities	8
CY. 218—General Chemistry and Qualitative Analysis	4
*MS. 206—Basic Mathematics	5
MS. 353—Differential Calculus	5
EGR. 180-181-182—Engineering Graphics	6
PS. 205-207—General Physics	4
MY. 201-202—Military Science	2
PL. 103-104—Physical Fitness	0
	34

			THIRD, FOURTH, FIFTH YEARS	Credits
(X)	MS.	354	Integral Calculus	3
(X)	PS.	206-8	General Physics	4
(X)	EGR.	282	Mechanisms and Kinematics	3
(X)	ML.	283	Elementary Design	3
(X)	ML.	377	Manufacturing Operations	4
	MS.	420	Differential Equations	3
	PS.	303	Modern Physics	3
	ML.	384	Metallography and Heat Treatment	3
	EM.	265	Engineering Mechanics—Statics	3
	EM.	366	Engineering Mechanics—Dynamics	3
	EM.	367	Strength of Materials	3
	CL.	368	Strength of Materials Laboratory	1
	EM.	313	Fluid Mechanics	4
	ML.	385, 390	Thermodynamics I and II	6
	ML.	387, 488	Mechanical Laboratory I and II	2
	EL.	341, 342	Elements of Electrical Engineering	6
	EL.	349, 350	Electrical Laboratory	2
	ML.	430	Industrial Heat Transfer	3
	ML.	445	Mechanical Engineering Problems	3
	ML.	486	Power Engineering	3
	ML.	473, 474	Seminar	2
	ML.	491	Machine Design I	4
	ML.	492	Machine Design II	3
	ML.	482	Refrigeration and Air Conditioning	3
	ML.	484	Refrigeration and Air Conditioning Lab.	1
	ML.	481	Internal Combustion Engines	3
	ML.	483	Internal Combustion Engines Laboratory	1
			**Approved Electives	9
				91

Lower Division Credit Hours 68
Upper Division Credit Hours 91

TOTAL.....159*

*Depending on his high school preparation and placement test scores, a student's program may be accelerated by waiving any or all of these courses, C-21, C-22, C-41, MS. 105, and MS. 106. Where any of these courses are waived, the total credits required for graduation are decreased accordingly. Students are advised to consult engineering counselors prior to registration to consider waiver of any required course. Courses designated by (X) should be completed during the first two years of residence by those students on the accelerated program.

**A student must take at least six (6) hours in the area of non-technical electives.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF METALLURGICAL ENGINEERING

(To Be Offered in the Department of Mechanical Engineering)

FIRST YEAR	*Credits*
C-11, 12—American Institutions	8
*C-21, 22—The Physical Sciences	6
C-31, 32—Reading, Speaking, Writing: Freshman English	8
*C-41—Practical Logic	3
*MS. 205—Basic Mathematics	3
CY. 217—General Chemistry	4
MY. 101-102—Military Science	2
PL. 101-102—Physical Fitness	0
	34

SECOND YEAR	*Credits*
C-51, 52—The Humanities	8
CY. 218—General Chemsitry and Qualitative Analysis	4
*MS. 206—Basic Mathematics	5
MS. 353—Differential Calculus	5
EGR. 180-181-182—Engineering Graphics	6
PS. 205-7—General Physics	4
MY. 201-202—Military Science	2
PL. 103-104—Physical Fitness	0
	34

THIRD, FOURT AND FIFTH YEARS

(X)	EGR.	282	Mechanisms and Kinematics	3
(X)	MS.	354	Integral Calculus	3
(X)	PS.	206-8	General Physics	4
(X)	ML.	384	Metallography and Heat Treatment	3
	MS.	420	Differential Equations	3
	PS.	303	Modern Physics	3
	EM.	313	Fluid Mechanics	4
	EM.	365	Engineering Mechanics (Statics)	3
	EM.	366	Engineering Mechanics (Dynamics)	3
	EM.	367	Strength of Materials	3
	EL.	341, 342	Elements of Electrical Engr.	6
	EL.	349, 350	Electrical Laboratory	2
	ML.	385	Therodynamics I	3
	ML.	430	Industrial Heat Transfer	3
	CY.	401-402	Physical Chemistry	6
	ML.	391-2	Metallurgy Laboratory	2
	ML.	463	Problems in Metallurgy I	3
	ML.	464	Problems in Metallurgy II	3
	ML.	465	Metals and Alloys I	3
	ML.	466	Metals and Alloys II	3
	ML.	473, 474	Seminar	2
	ML.	495	Process Metallurgy I	3
	ML.	496	Process Metallurgy II	3
	ML.	550	Mechanical Metallurgy	3
	ML.	453	Structure of Metals I	3
	ML.	553	Chemical Metallurgy	3
			**Approved Electives	9
				92

Lower Division Credit Hours 68
Upper Division Credit Hours 92

Total.....160*

*Depending on his high school preparation and placement test scores, a student's program may be accelerated by waiving any or all of those courses, C-21, C-22, C-41, MS. 105, and MS. 106. Where any of these courses are waived, the total credits required for graduation are decreased accordingly. Students are advised to consult engineering counselors prior to registration to consider waiver of any required course. Courses designated by (X) should be completed during the first two years of residence by those students on the accelerated program.

**A student must take at least six (6) hours in the area of non-technical electives.

School of Forestry

A Unit of the College of Agriculture

GENERAL STATEMENT

All work offered in the School of Forestry meets the highest requirements of forestry instruction in this country. The School is accredited by the Society of American Foresters.

The primary objective of the School of Forestry is to train men for professional careers in forest management, wood utilization and wildlife management. Special emphasis is placed on instilling in students an aggressive and scientific attitude toward the problems to be met after graduation.

The study programs of the School are designed to provide students with an education of sufficient breadth to qualify them for advancement to positions of responsibility and leadership. In addition to the arts, humanities and social studies offered in the University College, the student receives thorough training in the basic sciences and in the essential phases of his chosen field. The School of Forestry offers work under three majors leading to the degree, Bachelor of Science in Forestry.

I. FOREST MANAGEMENT

This major is designed for those students whose primary interests lie in the production of timber crops which provide the raw materials for wood-using industries. The forest manager's task is to manage forest lands so that adequate supplies of timber crops will be continuously available and maximum return may be received from the land. This work requires training in the skillful application of business methods, basic scientific facts and technical procedures in the operation of forest properties. It requires a thorough knowledge of the factors affecting tree growth, forest regeneration and timber stand development; a clear understanding of economic and business principles; considerable initiative and ingenuity; clear thinking; and a great personal interest in the business of producing timber crops.

II. FOREST PRODUCTS TECHNOLOGY

This major is designed for students who wish to enter into careers dealing with the development and production of more and better products from our nation's forests. Wood, the primary product of the forest, receives special attention. Theoretical and practical aspects of logging and lumbering, seasoning, gluing, preservative treatment, wood anatomy and timber mechanics, are subjects in which the student may chose to specialize. Wood-using industries, railroads, and utility companies, the armed forces, private and government research laboratories industry continually seek men who have had forest products training.

III. WILDLIFE MANAGEMENT

This major is offered for those students primarily interested in the production of annual crops of game birds and mammals for recreational purposes. The wildlife manager's chief objective is to manage each parcel of land so that it will produce its due share of the total wildlife population. This is done by recognizing and providing for the requirements of wildlife in the various operations connected with other uses of the land. For this reason the wildlife manager must know the life histories of all the wild animals and birds he is producing as well as the methods of handling land so that both the food and cover requirements will be provided. The wildlife manager frequently comes into contact with the public, since the wildlife he produces is public property and is used by the public.

The School of Forestry has varied facilities for carrying out its instructional and research objectives. Two forests are available for field laboratories, demonstration and research work. The University of Florida Conservation Reserve, consisting of 2,500 acres of diversified forest lands is located in Putnam County, Florida. The Austin Cary Memorial Demonstration Forest, consisting of 2,083 acres of flatwoods forest land, located 8 miles northeast of Gainesville, is used as a field laboratory and demonstration and experimental forest where the student receives practical field experience. The School of Forestry has a nursery and a small sawmill with necessary equipment located on this forest for use in instruction. A dry kiln and wood-preservation laboratory are located on the University Campus.

There are several forest products industries located in the immediate vicinity of Gainesville, namely; a wood-preservation plant, pole and cross-tie yard, destructive distillation plant, box and crate factory, excelsior plant and several sawmills. Visits to these industries supplement the student's training in wood processing and wood use. The production and manufacture of pulp and paper are studied on cutting sites and in the mills. Two of the three National Forests of the State are less than fifty miles distant. These forests are visited by classes in different fields of work.

The Forestry branch of the main library is housed in Rolfs Hall. The library contains text and reference books and many American and foreign periodicals on forestry and allied subjects.

REQUIREMENTS FOR ADMISSION

(a) Graduation from the University College or its equivalent as determined by the Board of University Examiners, (b) recommendation of the Board of University Examiners, and (c) approval of the Director of the School of Forestry. The student should have completed the courses given in the University College program.

At the time the student enters the University, he should contact the faculty of the School of Forestry for guidance in planning his work.

Transfer students or those with special hour-credit problems who have not completed some of the pre-professional work in University College, may be admitted on probation to the School of Forestry on approval of the Director. Satisfactory completion of the lower-level work will be required.

REQUIREMENTS FOR GRADUATION

The degree, Bachelor of Science in Forestry, is awarded to students who have 143 credits in the University College and Upper Division and meet the requirements of one of the three Forestry majors.

GRADUATION WITH HONORS

To graduate with honors students in the School of Forestry are considered separately from those in the College of Agriculture. For requirements see the general statement for graduation with honors, College of Agriculture.

CURRICULUMS LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN FORESTRY

Summer program required of all students:

*FY. 221—Summer Camp	5
FY. 228—Mensuration	3

*Forest Products Technology students may elect other courses.

Curriculum I

FOREST MANAGEMENT

JUNIOR YEAR

Course	*First Semester*	*Credits*	*Course*	*Second Semester*	*Credits*
PS. 201	General Physics	3	FY. 318	Forest Utilization	3
PS. 207	Physics Laboratory	1	FY. 309	Wood Technology	3
FY. 229	Mensuration	3	FY. 301	Silvics	3
FY. 306	Forest Protection	3	FY. 412	Seminar	2
BTY. 211	Plant Physiology	3	CL. 301	Forest Surveying	3
SLS. 300	Forest Soils	3	Electives		3
Electives		2			
		18			17

SENIOR YEAR

Course First Semester	*Credits*	*Course Second Semester*	*Credits*
FY. 353—Principles of Wildlife Management	3	FY. 420—Forest Economics	3
FY. 401—Silviculture	3	FY. 416—Applied Forest Management	3
FY. 409—Forest Finance	3	SCH. 201—Effective Speaking	3
FY. 419—Forest Management	3	Electives	7
FY. 446—Forest Photogrammetry	3		16
Electives	3		
	18		

In addition to the courses specified, students will elect either EY. 351—Forest Entomology or PT. 325—Forest Pathology.

Curriculum II

FOREST PRODUCTS TECHNOLOGY

JUNIOR YEAR

Course First Semester	*Credits*	*Course Second Semester*	*Credits*
PS. 201—General Physics	3	PS. 202—General Physics	3
PS. 207—Physics Laboratory	1	PS. 208—Physics Laboratory	1
BTY. 211—Plant Physiology	3	FY. 309—Wood Technology	3
EY. 351—Forest Entomology	3	FY. 318—Forest Utilization	3
Approved Electives	6	FY. 412—Seminar	2
Electives	2	Approved Electives	6
	18		18

SENIOR YEAR

Course First Semester	*Credits*	*Course Second Semester*	*Credits*
FY. 401—Silviculture	3	FY. 420—Forest Economics	3
FY. 419—Forest Management	3	PT. 325—Forest Pathology	3
Approved Electives	9	SCH. 201—Effective Speaking	3
Electives	3	Approved Electives	6
	18		15

Approved Electives: Forestry courses include FY. 319, FY. 414, FY. 415, FY. 418, FY. 421, FY. 447, FY. 448; MS. 353-4, CY. 362-3, CY. 331, MKG. 231, MKG. 233, MGT. 271, MGT. 373, IG. 321, IG. 371, IG. 372, CL, 301, ES. 202.

Curriculum III

WILDLIFE MANAGEMENT

JUNIOR YEAR

Course First Semester	*Credits*	*Course Second Semester*	*Credits*
FY. 229—Mensuration	3	PS. 201—General Physics	3
FY. 306—Forest Protection	3	PS. 207—Physics Laboratory	1
FY. 353—Principles of Wildlife Management	3	FY. 318—Forest Utilization	3
BLY. 308—Invertebrate Zoology	4	FY. 354—Techniques in Wildlife Management	3
or		BLY. 307—Biology of Vertebrates	4
BLY. 323—Nat. Hist. of Animals	3	BTY. 301—Local Flora	2
SLS. 300—Forest Soils	3		16
Electives	2 or 3		
	18		

SENIOR YEAR

Course First Semester	*Credits*	*Course Second Semester*	*Credits*
FY. 401—Silviculture	3	FY. 412—Seminar	2
FY. 419—Forest Management	3	FY. 420—Forest Economics	3
BLY. 305—General Ecology	3	BTY. 401—Plant Ecology	4
BTY. 302—Local Flora	2	SCH. 201—Effective Speaking	3
Electives	6	Electives	6
	17		18

MASTER OF SCIENCE IN FORESTRY

Courses are offered in the Graduate School leading to the degree, Master of Science in Forestry

For requirements for the Master's degree, see Graduate School.

ONE-YEAR FOREST RANGER COURSE
A DEPARTMENT OF THE SCHOOL OF FORESTRY

GENERAL STATEMENT

There is a real need for field trained men to carry out the prescriptions of the professional foresters, as well as to handle simpler forest and mill duties. This one-year course excellently provides the background and skills required for vocational work in the forest and in wood-using industries. A certificate is awarded on successful completion of the course. The school year is concurrent with the University year, opening in September and closing the following August.

REQUIREMENTS FOR ADMISSION

A four-year high school diploma showing adequate mathematics (algebra and plane geometry strongly recommended) is required for entrance. Equivalent training in forest or wood-using industries will receive consideration. Applicants should state previous woods or industrial experience, if any, on their application forms.

NECESSARY EXPENSE

(1) *Registration Fees*
(Paid by all students)

1st Semester	$ 85
2nd Semester	85
Summer Term	55
Total	$225

(2) *Tuition*
(Non-Florida students)

1st Semester	$185
2nd Semester	185
Summer Term	120
Total	$490

(3) *Books, Tools, Supplies*
(Estimated, all students)

1st Semester	$60.00
2nd Semester	21.60
Summer Term	7.20
Total	$88.80

(4) *Living Expenses**

1st Semester		
Room	$ 30.00	
Board (est.)	239.25	$269.25
2nd Semester		
Room	80.00	
Board (est.)	214.50	244.50
Summer Term		
Room	20.00	
Board (est.)	121.00	141.00
Year (est.)		$654.75

(5) *Incidental Expense*
(Estimated, including meals for weekends $450.00

There is also a breakage deposit of $20 due on application—refundable if not used, on completing course.

*Cost of meals for weekends not included. Meals are served Monday through Friday in the school dining hall.

The registration fee includes membership in a group health plan, covering hospitalization and surgical fees to a fixed limit; also Athletic Association membership, with admission to University intercollegiate games in Florida.

For detailed information, apply to the Director, School of Forestry, University of Florida, Gainesville, Florida.

CREDIT TRANSFER TO THE UNIVERSITY TOWARD A DEGREE IN FORESTRY

The Faculty of the School of Forestry will consider transfer of credit from the State Forest Ranger School toward the requirements for the Bachelor of Science in Forestry by examination and provided the student:

1. Has a grade of "C" or higher for the work to be transferred.
2. Has an average of "C" or higher for all work attempted at the Ranger School.
3. Maintains an average of "C" or higher during the first year at the University

Credit may be transferred for the following courses:

Number and Name of Course	*Credits*
FY. 220—Introduction to Forestry	2
FY. 221—Summer Camp	2
FY. 226—Dendrology	2
FY. 228—Forest Mensuration	3
FY. 306—Forest Protection	3
FY. 310—Reforestation and Nursery Practice	3

College of Health Related Services

GENERAL STATEMENT

The establishment of the College of Health Related Services as an academic unit of The J. Hillis Miller Health Center provides an opportunity to train needed personnel representing various health careers. This College offers professional curricula leading to appropriate undergraduate degrees in physical therapy, occupational therapy, and medical technology; and a Master's degree in rehabilitation counseling.

Three demands common to the four programs are accessibility of patients in the Teaching Hospital and Clinics, availability of staff and facilities of the College of Medicine, and the presence of a wide range of established course offerings to be found in a large university. The effective operation of various medical, hospital, and rehabilitation programs depends upon well trained and properly oriented personnel. The geographic location with the College of Medicine and the College of Nursing strengthens the respective programs of this College by making it possible for those who are to work together to be trained together.

UNDERGRADUATE CURRICULA
ADMISSIONS

To be eligible for admission to the College of Health Related Services, the student is required to have a 2.0 (C) average in all Lower Division courses and to have a 2.0 (C) average in all professional and preprofessional courses within that Lower Division curriculum. These grade averages do not assure acceptance in the college as the student must also have the approval of the Committee on Admissions of the College of Health Related Services.

Students who do not meet the grade averages stated above may request special consideration by the Committee on Admissions. Such approval may be granted in exceptional cases.

Transfer students must present college credit equivalent to graduation from the University College, as determined by the Board of University Examiners in accordance with provisions of the section of the catalog entitled Admissions.

Enrollment is based upon the limitations imposed by laboratory and clinical facilities.

GRADUATION WITH HONORS

To graduate *With Honors,* a student must have an honor point average of 3.2 or higher in the work of the Upper Division. To graduate *with High Honors,* a student must have an honor point average of 3.5 or higher in the work of the Upper Division, and be recommended by a faculty committee.

GRADUATE DEGREE

Graduate work in rehabilitation counseling leads to the degree of Master of Rehabilitation Counseling. For requirements for this degree, consult the catalog of the Graduate School.

EXPENSES

In addition to the usual university tuition and fees, students will be expected to furnish white uniforms and shoes for clinical work. This will be necessary for students in physical therapy and occupational therapy in the junior and senior years and for students in medical technology in the senior year.

STUDENT AID

Students interested in part-time employment, assistantships, traineeships, loans, prizes, and awards are referred to a special bulletin distributed by the Dean of Student Personnel, University of Florida, Gainesville, Florida.

MEDICAL TECHNOLOGY

GENERAL STATEMENT

Medical technology encompasses the largest single group of clinical laboratory workers. As the number and complexity of clinical laboratory examinations and procedures continues to increase, the need for well-trained medical technologists for service, teaching, research, and administrative positions far exceeds the supply. Many excellent employment opportunities are available for men and women with degrees in medical technology.

Medical technologists furnish physicians with laboratory data relative to the diagnosis and treatment of patients as well as in connection with medical education and research. They carry out the great majority of examinations of blood and other body fluids, isolation and identification of disease producing organisms, blood banking procedures, serological tests, and related laboratory studies. They also assist physicians with certain procedures carried out directly on patients, such as basal metabolism tests and electrocardiography. They prepare body tissues and other materials for further specialized examinations by pathologists and other clinical laboratory specialists. Most medical technologists work in hospitals and other clinical and public health laboratories, and in physicians' offices. They also have excellent employment opportunities in biological and pharmaceutical firms, in veterinary medicine, and in many related areas.

CURRICULUM

The Bachelor of Science in Medical Technology is awarded upon the satisfactory completion of the course requirements in the medical technology curriculum. Following graduation, three additional months of training in the laboratories of the Teaching Hospital and Clinics of the J. Hillis Miller Health Center are necessary to meet licensure and Registry requirements.

The curriculum is designed to meet the established essentials of the Council on Medical Education and Hospitals of the American Medical Association for accreditation of educational programs in medical technology. Satisfactory completion of these requirements and the additional three months of supervised laboratory experience is the basis for eligibility for the examination by the Registry of Medical Technologists of the American Society of Clinical Pathologists. Successful passing of this examination qualifies the candidate for certification as a Registered Medical Technologist, M.T. (ASCP) and for membership in the American Society of Medical Technologists. This training also meets requirements for admission to licensure examinations in those states which regulate the practice of medical technology.

For freshman and sophomore programs of study consult section of catalog entitled Lower Division.

JUNIOR YEAR

First Semester	*Credits*
MET 305—Fundamentals of Medical Technology	2
BCY 305—Basic Introductory Bacteriology	3
BCY 306—Basic Bacteriology Laboratory	2
CY 331—Introductory Quantitative Analysis	4
*Approved Electives	6
	17

Second Semester	*Credits*
MET 306—Fundamentals of Medical Technology	2
HRS 404—Professional Relationships in the Health Fields	2
BLY 574—General Physiology	4
*Approved Electives	9
	17

SENIOR YEAR

First Semester	*Credits*
MET 411—Clinical Laboratory Methodology	3
MET 415—Clinical Laboratory Practicum	12
MET 431—Seminar in Clinical Laboratory Problems	1
	16

Second Semester	*Credits*
MET 412—Clinical Laboratory Methodology	3
MET 416—Clinical Laboratory Practicum	12
MET 432—Seminar in Clinical Laboratory Problems	1
	16

*At least 6 semester hours of these approved electives must be specialized courses in one of the following 4 areas: Bacteriology, Biology, Chemistry, Physics.

OCCUPATIONAL THERAPY

GENERAL STATEMENT

Occupational therapy is an integral part of the comprehensive medical care and rehabilitation of patients with physical and mental illnesses. This therapy uses purposeful activity to restore ill and disabled persons to health. The demand for registered therapists far exceeds the present supply, and there are many interesting and challenging opportunities for placement.

The occupational therapist, working under the direction of a licensed physician, uses creative arts, manual skills, recreational, educational, and pre-vocational activities as the tools for treatment. Occupations prescribed as exercise restore motion and strength to joints and muscles and promote coordination, while other more creative activities are used to assist in the mental and psychological adjustment of the patient. By adapting equipment to the needs and abilities of the patient, the occupational therapist is able to teach the severely handicapped individual to perform activities of daily living. This therapist works closely with other members of the health team as he plays an important role in helping those with disabilities and illnesses to function at their greatest potential.

CURRICULUM

The Bachelor of Science in Occupational Therapy is awarded upon the completion of the course requirements in the occupational therapy curriculum. In order to be qualified to practice occupational therapy, the student must, in addition, satisfactorily complete nine months of clinical internship and pass the National Registration examination of the American Occupational Therapy Association. Three months of internship are spent in psychiatric hospitals and the remainder in approved centers offering experience with all age groups and with various types of physical illnesses and injuries. Students may elect to take two or three months of clinical experience during the summer following the junior year.

The curriculum in occupational therapy is designed to meet the essentials developed by the Council on Medical Education and Hospitals of the American Medical Association for accreditation of educational programs for occupational therapists. Satisfactory completion of the academic and clinical internship requirements is the basis for: (1) membership in the American Occupational Therapy Association, (2) eligibility for registration with the National Registry of Occupational Therapists, and (3) employment in civilian, military, state and federal hospitals, rehabilitation centers, and schools for crippled children throughout the United States and most foreign countries.

For freshman and sophomore programs of study consult section of catalog entitled Lower Division.

JUNIOR YEAR

First Semester	*Credits*
OCT. 311—Introduction to Occupational Therapy	2
OCT. 361—Therapeutic Skills	3
HRS. 331—Clinical Physiology	3
PSY. 410—Abnormal Psychology	3
IN. 102—Elementary Woodwork	3
Approved Electives	3
	17

Second Semester	*Credits*
OCT. 322—Treatment Procedures I	3
OCT. 332—Musculoskeletal Anatomy	4
OCT. 362—Therapeutic Skills	3
HRS. 322—Psychiatric Disorders	2
ART. 280—Beginning Ceramics	3
Approved Electives	2
	17

SENIOR YEAR

First Semester	*Credits*
OCT. 411—Advanced Theory	2
OCT. 441—Kinesiology	2
OCT. 451—Occupational Therapy Evaluation Procedures	3
HRS. 433—Medical and Surgical Disorders	3
IN. 400—Design and Construction in Wood	3
Approved Electives	4
	17

Second Semester	*Credits*
OCT. 442—Treatment Procedures II	4
OCT. 452—Occupational Therapy Evaluation Procedures	2
HRS. 404—Professional Relationships in Health Fields	2
HRS. 434—Medical and Surgical Disorders	3
Approved Electives	6
	17

PHYSICAL THERAPY

GENERAL STATEMENT

Physical therapy offers a challenging career for young men and women who are interested in scientific and medical fields and who like to work with people. There is a great shortage of registered therapists and graduates have a wide choice of opportunities for placement. It is one of a number of services closely allied with comprehensive medical care and is an integral part of rehabilitation. It has, as its objective, optimum functional restoration of patients disabled by illness or injury.

The physical therapist, working from the prescription of a licensed physician, utilizes specialized exercises and massage techniques and the remedial properties of heat, light, water, and electricity in administering treatment. Patients referred for physical therapy include those with amputations, arthritis, acute injuries, poliomyelitis, cerebral palsy, postural defects, and other orthopaedic and neuromuscular disorders. Skilled evaluation and application of physical therapy can shorten materially the time of convalescence and assist in overcoming or alleviating the effects of illness and disability. This therapist works closely with the physician, the occupational therapist, the nurse, the speech and hearing therapist, the psychologist, and other members of the health team as they combine their skills and knowledges for the welfare of the patient.

CURRICULUM

The Bachelor of Science in Physical Therapy is awarded upon completion of the course requirements in the physical therapy curriculum. No student, however, will be qualified to practice physical therapy until he has satisfactorily completed an additional three months of field experience and received a certificate of proficiency in physical therapy from the College of Health Related Services.

The curriculum in physical therapy is designed to meet the established essentials developed by the Council on Medical Education and Hospitals of the American Medical Association for accreditation of educational programs for physical therapists. Courses must be taken in approved sequence. Satisfactory completion of these requirements and the additional field experience is the basis for professional certification as a physical therapist: (1) in states which have laws regulating the practice of physical therapy, (2) for membership in the American Physical Therapy Association, (3) for registration with the American Registry of Physical Therapists, and (4) for employment in general and specialized hospitals, rehabilitation centers, schools for handicapped children, home care programs, and facilities for the chronically ill.

For freshman and sophomore programs of study consult section of catalog entitled **Lower Division.**

JUNIOR YEAR

First Semester	Credits
BLY. 309—Comparative Vertebrate Anatomy	4
or	
BLY. 310—Embryology	
PHA. 315—Applied Anatomy and Physiology	3
PHT. 301—Introduction to Physical Therapy	2
PHT. 311—Elementary Theory and Application	3
PSY. 410—Abnormal Psychology	3
Approved Electives	2
	17

Second Semester	Credits
PHT. 312—Intermediate Theory and Application	3
PHT. 332—Human Anatomy	5
PHT. 334—Dynamics of Human Motion	3
BLY. 574—General Physiology	4
Approved Electives	2
	17

SENIOR YEAR

First Semester	Credits
PHT. 411—Advanced Therapeutic Exercise	4
HRS. 433—Medical and Surgical Disorders	3
PHT. 451—Electrotherapy and Electrodiagnostic Procedures	3
PHT. 491—Supervised Practicum	2
Approved Electives	5
	17

Second Semester	Credits
HRS. 404—Professional Relationships in the Health Fields	2
PHT. 412—Advanced Therapeutic Exercise	4
HRS. 434—Medical and Surgical Disorders	3
PHT. 462—Physical Therapy Seminar	2
PHT. 492—Supervised Practicum	3
Approved Electives	3
	17

School of Inter-American Studies

HISTORY

For several decades the University of Florida has promoted interest in Latin America through an inter-American program. The Institute of Inter-American Affairs of the University, created in 1930, pioneered in the organization and coordination of inter-American activities on the campus, and encouraged the establishment of new course offerings in the inter-American field. This division of the University also granted scholarships to students from Latin America so that they might study certain subjects which were not offered in their own countries, notably courses in agriculture and engineering.

In 1950 steps were taken to expand the inter-American program at the University by establishing the Graduate School of Inter-American Studies to coordinate advance work in Latin American subjects in the various disciplines. In 1951 the Institute of Inter-American Affairs and the Graduate School of Inter-American Studies were combined into a single University unit with the title of School of Inter-American Studies. The School now is responsible not only for coordinating undergraduate and graduate course offerings but also for conducting other aspects of the University's program in the inter-American field.

ADMINISTRATIVE ORGANIZATION

As presently organized, the School is headed by a Director; associated with him is an Assistant Director. Both are nominated by the President and elected by the Board of Control. Each is responsible directly to the President. The faculty of the School includes members of the faculties of the various departments and colleges who are engaged in teaching courses having inter-American content or application. The School functions at the graduate level to establish interdepartmental curricula including an area study program, and operates under the rules of the Graduate School. At the undergraduate level the School coordinates the inter-American programs administered by the various departments and colleges. It also offers advisory services on curricula, and assists in the counseling of students.

Assisting in the administration of the School are an Inter-American Committee concerned with general policy, and a Special Graduate Faculty concerned with the general supervision of master and doctoral candidates. A U. S. Advisory Committee, consisting leading citizens interested in Latin America, and a Latin American Advisory Committee, made up of leading Latin American scholars, serve as consulting groups for off-campus activities.

AIMS AND FUNCTIONS

Besides academic functions, the program of the School aims to foster understanding of and mutual appreciation among the peoples of the Western Hemisphere. It encourages in schools, colleges, and universities the teaching of subjects dealing with languages, peoples, and institutions of the Western Hemisphere; it stimulates specific studies common to the Americas; it encourages the exchange of students, professors, and other specialists among colleges and universities of the Americas; it assists government and industry in training and orienting personnel; it disseminates throughout the Western Hemisphere by all available media information concerning the educational, cultural, and commercial life of the peoples and countries of the Americas; it sponsors conferences, institutes, musicales, art exhibits and special lectures on inter-American affairs; it promotes research projects and publications dealing with Latin America; and it attempts otherwise to advance inter-American interests in all fields of human endeavor.

The School is empowered to solicit, receive, and administer such funds as are given to the University for its program of inter-American affairs, subject to State and University regulations. The Director recommends to the President ways to employ such funds and grants for research, for travel in conjunction with research or other official School business, for publication, scholarships, exchange professorships, and conferences, and for other activities and functions designed to foster inter-American understanding and amity.

At the undergraduate level an area study program is offered in both the College of Arts and Sciences and the College of Business Administration. At the graduate level, Inter-American Area Study Programs are offered leading to the master's and the doctor's

degrees. Over thirty departments and colleges cooperate in the work of the School of Inter-American Studies by offering some 175 courses relating to Latin America.

FELLOWSHIPS AND SCHOLARSHIPS

The School of Inter-American Studies has available a limited number of graduate assistantships for properly qualified students from the United States and abroad.

For many years the University of Florida has awarded annually a limited number of tuition scholarships to superior Latin American students; such scholarships are available to graduates and undergraduates who are able to meet the requirements for admission to the University and the special admission requirements for aliens which are set forth elsewhere in the catalog. See Adviser to Foreign Students.

RESEARCH FACILITIES

Library facilities for research by students in the School of Inter-American Studies are being continually augmented through purchases made by members of the staff in the course of their travels in various Latin American areas. A Library Committee of Latin American scholars sends materials from time to time to the University. A large Caribbean Collection has been in existence for a number of years and it is being added to regularly. Under the Farmington Plan, the General Library regularly purchases materials from and about the West Indies. For students interested especially in the Spanish background of Florida history, there are available on the campus the Library of the Florida Historical Society and the P. K. Yonge Library of Florida History, which contains the John B. Stetson Collection consisting of some 130,000 photostats from Spanish and English archives pertaining to early Florida history. Currently, the General Library is adding special collections from Haiti and other Caribbean areas, and recently has purchased the publications of José Toribio Medina of Chile.

ANNUAL CONFERENCE

Beginning in December 1950 the School of Inter-American Studies in cooperation with the Aluminum Company of America through the Alcoa Steamship Co., Inc., the United Fruit Company, Esso Standard Oil, S. A., The Texas Co., through Texaco (Caribbean) Inc., and the International Petroleum Co., Ltd., has organized and sponsored an annual three-day conference dealing with problems of the Caribbean area. These conferences are attended by students, scholars, businessmen, government officials, and others, from countries throughout the Hemisphere. The papers presented at these eleven conferences are published in book form by the University of Florida Press in its Series I.

PUBLICATIONS

Besides the Conference proceedings mentioned above, the School issues at intervals a series of biographies of leaders of Latin American thought entitled "Grandes Figuras de América" (in Spanish), and "Latin American Monographs" (in English) which appear quarterly. These are financed by a grant from the Pan American Foundation, Inc. Funds from the same Foundation have been made available to publish a quarterly, scholarly *Journal of Inter-American Studies,* which began in January 1959. Each year in May the School publishes an annual *Bulletin* describing its objectives and activities, and from time to time it prepares and distributes reports, surveys, bibliographies, frequently in collaboration with the Inter-American Bibliographical and Library Association and the Pan American Union. In cooperation with the Department of Cultural Affairs of the Pan American Union, it has conducted surveys of research in the inter-American field in colleges and universities throughout the United States and Canada, published in 1953, 1956, and 1959. The School cooperates closely with the University of Florida Press, which has published a considerable number of scholarly volumes on Latin American subjects, and which, since 1951, has published annually the *Handbook of Latin American Studies* in cooperation with the Hispanic Foundation of the Library of Congress. A catalog of the University Press is available on application.

OTHER ACTIVITIES

The School of Inter-American Studies administers grants made by governments, organizations, foundations, industries, and individuals for special area surveys, research, publications, and other activities. It has organized English language courses for Latin American specialists in cooperation with the "Point Four" program, and interviews and discussions for the United States Information Agency. Through a grant from the latter it conducted an informal exchange program with the University of São Paulo, Brazil, and prepared a radio salute to the latter institution. Also the School developed a series of programs describing Latin American student life on the University of Florida campus at the invitation of the "Voice of America." In 1960 the School cooperated with the School of Journalism and Communications to organize thirteen 30-minute radio programs dealing with various aspects of present-day Latin American conditions and problems to be broadcast in 1961.

In 1946 the Inter-American Center of Florida in St. Augustine established a "Grove of Educators of the Americas," where a bust or statue of an educator from each of the countries of the Western Hemisphere eventually will be dedicated. In October, 1951, the School of Inter-American Studies arranged to cooperate jointly with the St. Augustine Center in continuing this project. Busts or statues already have been dedicated by Argentina, Venezuela, Ecuador, Cuba, Honduras, Panama, Peru and the United States.

For many years the University has commemorated Pan American Day and *Día de la Raza* (Columbus Day) with appropriate ceremonies. The school of Inter-American Studies not only continues this activity but also takes appropriate notice of important national holidays of all Latin American republics. To this end the Plaza of the Americas, in the heart of the campus, displays national flags in front of the twenty trees, which have been dedicated to the Latin American republics.

In order to better serve the people of the state and neighboring area of south-eastern United States, the School of Inter-American Studies maintains a Speaker's Bureau of experts in inter-American fields. Their services are available to schools and organizations which may desire lectures pertaining to the countries of Latin America.

ADDITIONAL INFORMATION

The annual Bulletin describing the organization, objectives, and activities of the School of Inter-American Studies is available free on application to the Director of the School.

School of Journalism and Communications

The curricula in the School of Journalism and Communications lead to the degrees of Bachelor of Science in Journalism, Broadcasting, or Advertising.

The School stresses a broad background in liberal arts and sciences—history, political science, economics, literature, psychology, sociology and physical sciences—which is essential to those entering journalism, broadcasting, advertising, public relations, and allied professions.

In this School the student spends about three-fourths of his time on general background courses to gain an informed acquaintance with the major areas of human knowledge. The remaining one-fourth involves the development of professional techniques in relation to this background knowledge.

Students gain practical experience in the University's radio and television stations, on the School's laboratory newspapers, on student publications, and through the summer internship programs.

REQUIREMENTS FOR ADMISSION

To be eligible for admission to the School of Journalism and Communications, students must have fulfilled the following requirements:

(1) Earned 64 semester hours of acceptable college credit with a minimum 2.0 (C) grade average; (2) completed the Comprehensive Courses of the University College or their equivalents; (3) completed these pre-professional courses:

JM 118—Survey of Communications
JM 201—Writing for Mass Communications
ES 201—Basic Economics
LY 201—Uses of Books and Libraries
ART 101—Beginning Design (Advertising majors only)
BR 212—Broadcast Announcing (Broadcasting majors only)
SCH 201—Effective Speaking (Journalism and Advertising majors only)

A Committee on Admissions will consider applications from transfer students and those who do not meet these minimum requirements.

All students must be able to type.

REQUIREMENTS FOR DEGREE

The professional courses are concentrated in the Upper Division, where the curricula are divided into three major programs.

Those specializing in the News-Editorial or Public Relations fields will take the appropriate sequence in the Bachelor of Science in Journalism program. Students interested in radio and television will register for the Broadcasting program. Those wishing Advertising will take the Advertising program which includes work both in the printed and audio-visual media.

Students wishing to specialize in more than one field may earn a second degree in this School by completion of an additional thirty semester hours of work, with the necessary qualitative and residence requirements.

The minimum requirement for graduation from the School of Journalism and Communications is sixty-four semester hours in which the student must earn an average of C (2.0) or better and an average grade of C or better in all professional courses.

GRADUATION WITH HONORS

Students who have received an honor point average of 3.20 or higher in all work taken while registered in the Upper Division may graduate with Honors.

Students who have earned an honor point average of 3.5 or higher in all work taken in the Upper Division will be invited to write an undergraduate honors paper and present it to the Honors Examining Committee of the School during the semester in which they will graduate. The committee will examine them on the general field of the paper and on

their preparedness in other areas. Recommendation for graduation with High Honors will be based on the paper and on the oral examination.

Transfer students who have earned at least 30 credits in the upper division at this University may be recommended for graduation with Honors or High Honors. Their standing in all courses at midsemester before graduation will be taken into consideration.

ASSISTANTSHIPS

Financial assistance is available through student and graduate assistantships in this School. Information may be obtained from the Director of the School.

SPECIAL PROGRAMS

AGRICULTURAL JOURNALISM: A special program leading to a Bachelor of Science degree with emphasis on agricultural journalism is available. Interested students should consult with the Director of the School of Journalism and Communications and with the Dean of the College of Agriculture. Agriculture students seeking a single course in handling agriculture publicity and news for newspapers, magazines and radio-television are advised to register for JM 420.

JOURNALISM FOR TEACHERS: Special training and supervised research are available for Journalism teachers and others interested in work at the high school level. Students seeking state certification in Journalism should consult with the Director of the School.

TELEVISION FOR TEACHERS: The School offers instruction in the use of television production techniques and their utilization in informational and educational programs.

PROFESSIONAL AND HONORARY ORGANIZATIONS

Six national professional and honorary fraternities select members from undergraduates in the School of Journalism and Communications: Sigma Delta Chi, men in journalism; Theta Sigma Phi, women in journalism; Alpha Delta Sigma, men in advertising; Gamma Alpha Chi, women in advertising; Alpha Epsilon Rho, men and women in broadcasting; and Kappa Tau Alpha, scholastic honorary for men and women.

MEMBERSHIP IN NATIONAL AND REGIONAL ASSOCIATIONS

The School of Journalism and Communications is a member of the American Association of Schools and Departments of Journalism, the National Association of Newspaper Executives, the National Association of Educational Broadcasters, the National Society for the Study of Communications, the University Film Producers Association, and the Newspaper Advertising Executives Association.

The Florida Daily Newspaper Association and the Florida Press Association have state headquarters at the School. A member of the faculty of the School serves them both as secretary-manager.

Consultants to the Florida Educational Television Commission and to the Florida Scholastic Press Association are members of the faculty of the School of Journalism and Communications. Summer institutes and workshops in television and for high school journalists are held in the School's air-conditioned quarters.

NATIONAL STANDING OF SCHOOL

The School of Journalism and Communications at the University of Florida is the only such school in Florida accredited by the American Council on Education for Journalism. The curricula, faculty, facilities and alumni achievements are evaluated regularly by the American Council on Education for Journalism, whose membership includes the American Society of Newspaper Editors, the American Newspaper Publishers Association, the National Editorial Association, the Inland Press Association, and the National Association of Broadcasters, as well as journalism educators.

GRADUATE DEGREE

The School of Journalism and Communications, through the Graduate School, offers a program leading to the degree of Master of Arts in Journalism and Communications. Graduate work is offered with specialization in the communications media—the press, radio, television—in advertising, public relations, journalism or broadcast education, in international communications or communications research. Consult the catalog of the Graduate School.

UNDERGRADUATE CURRICULA

The program for first and second year students expecting to earn a degree in the School of Journalism and Communications is as follows:

Freshman Year	*Credits*
C-11, 12—American Institutions	8
C-21, 22—The Physical Sciences	6
C-31, 32—Reading, Speaking and Writing: Freshman English	8
C-41, 42—Logic and Mathematics	6
JM. 118—Survey of Communications	3
Military Science or Elective	2
Physical Fitness	0
	33

Sophomore Year	*Credits*
C-51, 52—The Humanities	8
C-61, 62—Biological Science	6
ART 101—Beginning Design (Advertising majors only)	2
ES. 201—Basic Economics	3
LY. 201—Uses of Books and Libraries	1
JM. 201—Writing for Mass Communications	3
BR. 212—Broadcast Announcing (Broadcasting majors only)	3
SCH. 201—Effective Speaking (Journalism-Advertising majors only)	3
Military Science or Elective	2
Electives	3-5
	31

ADVERTISING PROGRAM (BS in Advertising)

Junior Year	*Credits*
MKG. 333—Advertising	3
JM. 305—Typography	2
ADV. 310—Advertising Copy & Layout	3
MKG. 331—Principles of Marketing	3
MKG. 233—Salesmanship	3
PSY. 206—Psychology Applied to Business and Industry	3
HY. 245—American History	3
HY. 246—American History	3
Electives	9
	32

Senior Year	*Credits*
JM. 342—Photo Journalism	3
JM. 414—Public Relations	3
JM. 508—Public Opinion	3
JM. 509—Law of the Press and Radio-TV	3
ADV. 502—Radio-TV Advertising	3
ADV. 512—Advertising Campaigns	3
ADV. 560—Advertising Seminar	2
Electives	12
	32

JOURNALISM PROGRAM (BS in Journalism)
(News-Editorial Sequence)

Junior Year	*Credits*
JM. 301—Elementary Reporting	3
JM. 305—Typography	2
JM. 340—Editing	2
JM. 342—Photo Journalism	3
JM. 402—Advanced Reporting	2
PCL. 201—American Federal Gov't.	3
PCL. 202—American State & Local Government	3
HY. 245—U. S. History	3
HY. 246—U. S. History	3
Electives	8
	32

Senior Year	*Credits*
JM. 407—History of Journalism	3
JM. 450—Applied Journalism	3
JM. 508—Public Opinion	3
JM. 509—Law of Press and Radio-TV	3
JM. 560—Journalism Seminar	2
Electives	18
	32

JOURNALISM PROGRAM (BS in Journalism)
(Public Relations Sequence)

Junior Year		*Credits*
JM.	301—Elementary Reporting	3
JM.	305—Typography	2
JM.	340—Editing	2
JM.	342—Photo Journalism	3
BR.	318—Broadcast Writing	3
MKG.	333—Advertising	3
PSY.	206—Psychology Applied to Business and Industry	3
HY.	245—U. S. History	3
HY.	246—U. S. History	3
PCL.	201—American Federal Government	3
PCL.	202—American State & Local Government	3
Electives		1
		32

Senior Year		*Credits*
ADV.	310—Advertising Copy and Layout	3
JM.	414—Public Relations	3
SCH.	301—Advanced Public Speaking	3
JM.	407—History of Journalism	3
JM.	413—Magazine and Feature Writing	3
JM.	425—Business & Technical Writing	3
JM.	508—Public Opinion	3
JM.	509—Law of Press and Radio-TV	3
JM.	560—Journalism Seminar	2
Electives		6
		32

BROADCASTING PROGRAM (BS in Broadcasting)

Junior Year		*Credits*
BR.	318—Broadcast Writing	3
BR.	323—Radio Production	3
BR.	325—Television Production	3
JM.	342—Photo Journalism	3
HY.	245—U. S. History	3
HY.	246—U. S. History	3
PCL.	201—American Federal Gov't	3
PCL.	202—American State & Local Government	3
Electives		8
		32

Senior Year		*Credits*
BR.	425—The Broadcast Program	3
ADV.	502—Radio-TV Advertising	3
JM.	506—Radio-TV Reporting	3
JM.	509—Law of Press and Radio-TV	3
BR.	560—Broadcasting Seminar	2
Electives		18
		32

College of Law

THE COLLEGE OF LAW, founded in 1909, began its work in the Thomas Hall Dormitory for men. The Law Building, erected in 1914, was one of the first permanent units on the campus. The College was accredited by the New York State Board of Regents in 1917, admitted to membership in the Association of American Law Schools in 1920, and recognized as an approved school by the American Bar Association in 1925. Women students were admitted beginning in 1925, and in 1933 the requirements for admission were increased to require an academic degree.

In September of 1941, the entire plant of the College of Law was dedicated and named in the memory of Nathan Philemon Bryan, Chairman of the Board of Control at the time of the founding of the College of Law, and former United States Senator and United States Circuit Judge. Also in 1941 the Law Library, now containing over 60,000 volumes, was built. In 1950, a courtroom-auditorium wing was added with a seating capacity of approximately two hundred and fifty, and a suite of offices for the University of Florida Law Review. As this bulletin goes to press, another addition to the law building is under construction. The new building will provide classrooms and seminar space, four new faculty offices, and air-conditioning for the entire plant. Completion date for the new wing is December, 1961.

The curriculum of the College is arranged so that the courses prescribed for the first year assure a sound foundation for further study. During the second and third years a wide election is afforded, subject to minimum credit hour requirements in each of the major fields of law study. The student, while required under this arrangement to pursue a course of study sufficiently broad to prepare him for the legal profession, may concentrate upon such subject areas of particular interest to him.

The goal of the College is to impart a thorough, scientific and practical knowledge of the law, together with an understanding of its role in a democratic society. It aims to develop keen, efficient lawyers who will respect the ideals and traditions of the profession. The policy of the college places emphasis upon practical skills as well as legal theory; problems of the modern world as well as historical perspective; the creative aspects in the drafting of documents as well as in the body of legal doctrines.

The College of Law offers a three-year program leading to the degree of Bachelor of Laws. Admission is limited to those with a bachelor's degree from an accredited college or university who have satisfactory undergraduate records and have attained a satisfactory score on the Law School Admission Test. For detailed information on admission requirements, courses and programs, see the Bulletin of the College of Law. Copies can be obtained by writing the Director of Admissions, University of Florida, Gainesville, Florida.

College of Medicine

The College of Medicine, a unit of the J. Hillis Miller Health Center, was activated in 1956 and is located in a new modern functional physical plant on the south end of the University of Florida campus in Gainesville. Its location on the main campus of the University offers an unusual opportunity for many of the varied resources of the University to be applied not only to the training of physicians, but of basic medical scientists as well. The College accepts 50 new students each year in the M.D. program; candidates for the Ph.D. in Medical Sciences are not limited in number.

The faculty was chosen on the basis of teaching ability and research potential. To encourage close student-faculty contact, laboratory experiments have been planned for the student to work individually or in small groups of two or four. Within each course, a high ratio of full time faculty to students has been maintained.

Students accepted for admission must have personal qualities of the highest order—character, integrity, intellectual honesty, responsibility, maturity, initiative and aptitude. In addition, to these personal characteristics, students must have demonstrated superior intellectual achievement in the framework of a well-rounded liberal education.

Students intending to apply for admission should complete the requirements for a bachelor's degree although a limited number of exceptional students may be considered for admission at the end of their third year of college. Applicants over the age of 30 will rarely be considered. No application from persons over 35 will be accepted.

The College of Medicine is based in a $5.6 million Medical Sciences Building, opened in 1956. Clinical training for medical students is provided in the adjoining $9.4 million Teaching Hospital and Clinics which opened for the admission of patients in October, 1958. Under construction is a new $1,680,000 Pharmacy-Research Wing which will provide additional research facilities for the College of Medicine.

The curriculum is arranged so that students interested in a career in medical teaching and research may elect to work toward a Doctor of Philosophy degree in Medical Sciences rather than an M.D. degree. Many courses are taken with medical students. Graduate education in the basic medical sciences is planned from an interdisciplinary point of view but with a major in the fields of anatomy, biochemistry, microbiology, or physiology.

Further detailed information is contained in the College of Medicine or Graduate School Catalog. Copies may be obtained by writing the Office of the Dean, College of Medicine, University of Florida, Gainesville.

College of Nursing

GENERAL STATEMENT

The establishment of the College of Nursing within the framework of the J. Hillis Miller Health Center at the University of Florida offers a unique opportunity to provide collegiate and professional training for nurses in a university setting.

The general philosophical framework for this program in nursing consists of the following: That the most effective professional nurse is the one who in her professional capacity can convey to the most persons the feeling that each is understood, accepted and supported and at the same time that each is being the recipient of and participant in a scientifically based nursing service; and that this effectiveness is basic to competent functioning in any and all areas of specialization within the nursing profession whether teaching, administration, research or direct patient care.

The curriculum prepares students to enter the nursing profession as *practitioners of nursing* able to perform the technical and interpersonal skills involved in the nursing care of patients and families; to work with nursing team members to plan and achieve optimum nursing care of patients and families; and to work with allied professional groups to insure the best over-all health care of patients and families.

The four-year program includes both general education in the University of Florida and professional preparation in the Health Center. Upon satisfactory completion of the program, the graduate will be awarded the degree of Bachelor of Science in Nursing and is then eligible for the State Board of Nursing examination for state licensure as a Registered Professional Nurse. During these four years, the student may live in the modern dormitories provided for students on campus and is encouraged to participate in the many cultural and recreational campus activities as do other students.

The clinical and professional part of the nursing program is taught in the Teaching Hospital of the J. Hillis Miller Health Center which also provides clinical training for physicians, scientists, pharmacists and personnel in other health fields. The Teaching Hospital houses an outpatient clinic, an ambulatory wing, a psychiatric unit and a hospital wing for seriously ill patients. With these comprehensive and modern facilities, the student has opportunities for supervised observation and practice in all phases of patient care. Other patient facilities, such as public health agencies, are used to prepare students for beginning professional nursing positions.

CURRICULUM

The four-year program in the College of Nursing is approved by the Florida State Board of Nursing and consists of two divisions. During the first two years in the University College, or lower division, instruction is centered around the comprehensive courses to give the student a full, rich background for citizenship and a professional career.

The following two years in the College of Nursing, or upper division, composes the professional part of the program and offers courses specifically related to the art and science of nursing. The University Teaching Hospital is used as the primary training resource, and with the exception of Nursing 101, and Nursing 111 all nursing courses require supervised observation and practice in the care of patients.

FIRST YEAR

First Semester	*Credits*
C-11—American Institutions	4
C-61—Biological Science	3
C-31—Reading, Speaking & Writing	4
C-41—Practical Logic: Straight Thinking	3
NSG-101*†—Introduction to the Nursing Profession	3
Physical Education	0
	17

Second Semester	*Credits*
C-12—American Institutions	4
C-62—Biological Science	3
C-32—Reading, Speaking & Writing	4
C-42—Fundamental Mathematics	3
NSG-111*—Introduction to Nursing Functions	3
Physical Education	0
	17

SECOND YEAR

First Semester	Credits	Second Semester	Credits
C-51—The Humanities	4	C-52—The Humanities	4
C-21—The Physical Sciences	3	C-22—The Physical Sciences (Physics)	3
NSG-220†—Nursing Skills Laboratory	2	NSG-221†—Nursing Skills Laboratory	2
EDF-245—Human Growth & Development	3	BCY-300†—Bacteria in Everyday Life.	3
FT-250†—Fundamentals of Human Nutrition	2	Elective	3
Elective	3	Physical Education	0
Physical Education	0		15
	17		

THIRD YEAR**

First Semester	Credits	Second Semester	Credits
NSG-310—Medical & Surgical Nursing	3	NSG-330—Maternal & Child Health Nursing	3
NSG-311†—Medical & Surgical Nursing Laboratory	5	NSG-331†—Maternal & Child Health Nursing Laboratory	5
NSG-334†—Communicable Disease Control	2	PHA-366†—First Aid & Injuries	2
NSG-341†—Pediatric Nursing Laboratory	5	EDF—442—Educational Psychology	3
		Elective	3
	15		16

FOURTH YEAR**

First Semester	Credits	Second Semester	Credits
NSG-440†—Public Health Nursing	3	NSG-450—Psychiatric Nursing	3
NSG-441†—Public Health Nursing Laboratory	5	NSG-451†—Psychiatric Nursing Laboratory	5
NSG-443†—Public Health Administration	3	NSG-461—Team Nursing Laboratory.	5
NSG-445—Nursing Aspects of Gerontology	3	NSG-481†—Nursing in Medical & Surgical Specialties	3
Elective	3		16
	17		

*Half the freshman class will take NSG-101 1st semester and NSG-111 second semester. The other half will take NSG-111 1st semester and NSG-101 2nd semester.

**In order to prevent overloading of clinical facilities, half of the class will take the first semester first as stated and the other half will take the second semester first (reversing the sequence of semesters).

†Registered Nurses may receive credit for these courses as determined by the Registrar's Office.

Electives: It is recommended that all electives be concentrated in one area of interest.

Note: Clinical practice may be included as an assignment for all nursing courses.

Maximum and Minimum Load—Students are advised to take no more than the prescribed number of hours as outlined in the curriculum.

Extension Courses—Through the Extension Division of the University, courses in general education and nursing are offered which may be applied toward requirements for a degree. Address inquiries for information to the Home Study Department, Seagle Building, Gainesville.

REQUIREMENTS FOR ADMISSION

Students must complete the requisite number of hours in University College and have a 2.0 honor point average to be eligible for admission to the College of Nursing. The

students must have at least a 2.0 honor point average in the *nursing courses* in the lower division.

As nursing courses numbered 300 and higher are of a professional nature, only students registered in the College of Nursing may enroll in such courses except by special permission in writing from the Dean or Assistant Dean of the College of Nursing.

GRADUATION

Graduation with Honors—To graduate with Honors, a student must have completed the work of the Upper Division and must have received an honor point average of 3.20 or higher for all college work.

Graduation with High Honors—To graduate with High Honors, a student must meet the following requirements:

(1) Secure an honor point average of at least 3.50 in all college work.

(2) Commence work on a High Honors project usually two semesters prior to graduation but, in any case, not later than the beginning of the last semester.

(3) Complete this independent work and present a written report satisfactory to the committee and to the faculty of the College.

Residence Requirements—The College of Nursing complies with the requirements for residency as stated in the section *Student Regulations—Degrees and Graduation.*

CITIZENSHIP

A person writing State Board Examinations for licensure as a registered professional nurse must be a citizen of the United States. Students applying for admission to the program should, therefore, have full citizenship or have declared their intentions to become citizens of the United States.

PROFESSIONAL CLUBS AND ORGANIZATIONS

The University of Florida Nursing Students' Organization, a constituent member of the Student Nurses' Association of Florida, is open to all students who are interested in Nursing. A recognized campus organization, its purpose is to promote personal and professional growth through the development of understanding and interest in student as well as graduate professional organizations. Opportunity is provided for active participation in the proceedings of the Student Nurses' Association of Florida.

EXPENDITURES

In order to participate in the activities of the first clinical courses (usually Nursing 220), the student will need to purchase uniforms and cap, white shoes (according to specifications), scissors, and a watch with a second hand. Order blanks for uniforms may be obtained from the office of the Dean of the College of Nursing. At least six to eight weeks should be allowed for delivery. Registered Nurses may wear their own uniforms.

Use of a personal car is recommended to facilitate practice in the community activities associated with the Public Health Nursing Laboratory (NSG. 441).

During his Junior and Senior year each student will participate in the National League for Nursing testing program. Individual cost will be approximately a total of four dollars.

HEALTH POLICIES FOR NURSING STUDENTS

In addition to the health regulations of the University for all entering students, the College of Nursing requires a physical examination at yearly intervals throughout the program. Written proof of immunization against poliomyelitis must be presented before admission to the College of Nursing or before registering for the first clinical nursing course, whichever occurs first.

During the first semester of the first clinical course, and each semester thereafter, the Student Infirmary personnel will test each nursing student for sensitivity to tuberculosis. Immunization against diphtheria and tetanus will also be done. Students who do not have

this test and these shots on the specified dates will be notified and charged a fine by the Infirmary. Every student in the Sophomore, Junior and Senior courses is expected to adhere to these policies.

Each student registered for clinical nursing courses is required to have some form of hospitalization insurance. All full-time students or students taking 4 or more semester hours are eligible for a health insurance plan sponsored by the Student Government. This may be purchased at the time of registration and gives a twelve month coverage. All other students must make substitute arrangements.

Emphasis is placed throughout the nursing curriculum on the students assuming responsibility for their own health.

STUDENT AID

Information relating to sources of financial aid, as well as information relating to student employment may be obtained from the Student Personnel Office.

Information relating to Florida's State Scholarship Loan Program may be obtained from the Superintendent of Public Instruction in each Florida County.

College of Pharmacy

GENERAL STATEMENT

The College of Pharmacy, a unit in the J. Hillis Miller Health Center, meets the highest requirements of pharmaceutical instruction in this country. The College is accredited by the American Council on Pharmaceutical Education and therefore receives recognition for its courses from state boards requiring graduation from an accredited college of pharmacy as a prerequisite for examination and registration. The College is a member of the American Association of Colleges of Pharmacy and complies with its educational requirements.

Senior students are given complimentary memberships in the Florida State Pharmaceutical Association.

The curriculum provides a systematic course of instruction in the subjects which are essential for the successful practice of pharmacy in drugstores and hospitals pharmacies. Men and women graduates are in demand as sales representatives for wholesale and manufacturing pharmaceutical firms. They are eligible for a limited number of commissions in the U. S. Public Health Service and the Armed Forces. The courses provide a basis for additional study in preparation for research or analytical work in the pharmaceutical, chemical, biological, and cosmetic industries as well as inspection of food and drugs.

The College is presently housed in Leigh Hall and will move to a new building in the Health Center sometime in 1961. The equipment includes pharmaceutical machinery for manufacturing medicinal products on a pilot-plant scale and modern facilities for undergraduate and graduate work in pharmacy, pharmaceutical chemistry, pharmacology, and pharmacognosy.

A ten-acre tract is used by the College of Pharmacy for a medicinal plant garden. This teaching adjunct is a source of supply of fresh material for study, investigation, and classroom illustration.

The Chemistry-Pharmacy branch of the main library is housed in Leigh Hall. The library includes text and reference books and many American and foreign periodicals on chemical, pharmaceutical, and medical subjects.

Students in the University College who plan to major in pharmacy are urged to contact the office of the Dean of the College of Pharmacy for assignment to counselors in the College and to confer with them regularly. Literature describing opportunities in pharmacy may be secured in the office of the Dean of the College of Pharmacy.

REQUIREMENTS FOR ADMISSION

(a) Graduation from the University College or its equivalent as determined by the Board of University Examiners, (b) recommendation of the Board of University Examiners, and (c) approval of the Committee on Admissions of the College of Pharmacy.

Students in the Lower Division planning to study pharmacy are referred to the recommended programs of study outlined under University College, including the specific requirements for admission to the College of Pharmacy.

RESIDENCE REQUIREMENT

In keeping with the requirements for accreditation, all students expecting to earn the degree of B. S. in Pharmacy must be enrolled in one or more Pharmacy courses for a minimum of three academic years or a total of twenty-seven months. This regulation applies regardless of the number of studies completed in other fields.

GRADUATION WITH HONORS

To graduate *With Honors,* a student must have graduated from the University College *With Honors* and earn an honor point average of at least 3.0 in the work of the Upper Division or in lieu of graduation from the University College *With Honors* earn an honor point average of at least 3.2 in the work of the Upper Division.

To graduate *With High Honors,* a student must meet the requirements for graduation *With Honors* and be recommended for graduation *With High Honors* by the faculty.

BACHELOR OF SCIENCE IN PHARMACY

The Degree of Bachelor of Science in Pharmacy is awarded on completion of the curriculum as outlined below. Opportunity for some specialization is offered by the proper selection of the elective courses in the senior year.

CURRICULUM

To be eligible for the degree of Bachelor of Science in Pharmacy all requirements of the curricula for pharmacy students in both the University College and the College of Pharmacy must be completed.

For all students a grade of C or higher is required in each semester of Pharmacy 461-462. An average of C or higher must be obtained in all courses required for a degree. Curriculum to be followed by students in the Upper Division:

JUNIOR YEAR

First Semester	*Credits*	*Second Semester*	*Credits*
PLY. 301—Applied Human Anatomy for Pharmacists	4	PLY. 302—Applied Human Physiology for Pharmacists	4
PHY. 311—Inorganic Pharmacy	4	PHY. 374—Commercial Pharmacy	5
PHY. 315—History & Ethics of Pharmacy	2	PCY. 355—Organic & Analytical Pharmaceutical Chemistry	5
CY. 362-363—Organic Chemistry	5	BCY. 305—Basic Intro. Bacteriology	3
ATG. 211—Elementary Accounting	3	BCY. 307—Intro. Bacteriology Lab.	1
Total	18	Total	18

SENIOR YEAR

First Semester	*Credits*	*Second Semester*	*Credits*
PHY. 461—Prescriptions and Dispensing	4	PHY. 462—Prescriptions & Dispensing	4
PHY. 455—Pharmaceutical Specialties	3	PHY. 456—Pharmaceutical Specialties	3
PLY. 405—Introductory Pharmacology	3	PLY. 406—Advanced Pharmacology	5
PHY. 481—Pharmacy Laws	2	Approved Electives	6
PCY. 356—Organic & Analytical Pharmaceutical Chemistry	5	Total	18
Total	17		

Approved electives may be taken in cultural subjects, the sciences, and business administration. For further advice consult the Dean of the College of Pharmacy.

FIVE-YEAR PROGRAM

The new five-year program will be required of all students who began their college careers on or after April 1, 1960. The curriculum for the two prepharmacy years is outlined under University College. The curriculum for the three professional years will be published in a later issue of the Catalog. For additional information, consult the Dean of the College of Pharmacy.

GRAUATE PROGRAMS

Courses are offered in the Graduate School leading to the degree of Master of Science in Pharmacy with a major in Pharmaceutical Chemistry, Pharmacognosy, Pharmacology, and Pharmacy, including Hospital Pharmacy. For the degree of Doctor of Philosophy, majors are offered in the following areas: Pharmaceutical Chemistry, Pharmacognosy, Pharmacology, and Pharmacy. Further details, including course offerings, are described in the Graduate School catalog.

College of Physical Education and Health

GENERAL STATEMENT

The College of Physical Education and Health offers programs of instruction and services under five departments, namely: Health Service, Intramural Athletics and Recreation, Required Physical Education for Men, Required Physical Education for Women, and The Professional Curriculum.

THE PROFESSIONAL CURRICULUM

The Department of The Professional Curriculum offers programs of study leading to appropriate undergraduate degrees in the areas of Physical Education, Health Education, and Recreation. The course requirements for each of the several curricula will be found on the following pages. Each curriculum is designed to prepare students for various professional positions. These positions are described in the introductory paragraphs of the several curricula. The requirements of the undergraduate curricula are organized on the basis of the Lower Division and the Upper Division. Courses basic to each of the several curricula are offered in the University College and are required for admission to full standing in the College of Physical Education and Health. Programs of graduate study are also offered by this department leading to the degree Master of Physical Education and Health, or the degree, Master of Arts in Physical Education and Health.

ADMISSION REQUIREMENTS

1. Requirements for students entering The Professional Curriculum of the College of Physical Education and Health from the *Universtiy College.*

a. Present a certificate of graduation from the University College or its equivalent.

b. Complete, with a passing grade on each all required University College courses (C-1, C-2, C-3, C-41, C-42, C-5 and C-6 or satisfactory substitutes therefor).

c. Complete, with a passing grade, the specified professional foundation courses for the curriculum of the student's choice (see curriculum below) during the freshman and sophomore years in the University College.

d. Present an academic average of 2.0 covering all work in the Lower Division.

e. Have the approval of the Committee on Admissions of the College.

2. Requirements for transfer students entering from *other institutions:*

Meet the above requirements or the equivalent, as determined by the Board of University Examiners and have the approval of the Committee on Admissions of the College of Physical Education and Health. Transfer and acceptance of credits from other institutions are handled through the Office of the Registrar.

3. The Committee on Admissions of the College of Physical Education and Health will consider requests for admission from students who do not meet the conditions stated above. Admission without the required 2.0 academic average, however, will be approved only in exceptional cases.

THE ADVISORY PLAN

All students in the College of Physical Education and Health are provided with an advisor selected from the faculty. The purpose of the advisory plan is to make available an understanding and sympathetic counselor to whom the student may turn for assistance in solving any of his problems. The student is advised on such matters as (1) selection of courses in the area of specialization and approved electives, (2) participation in extracurricular activities, (3) scholastic difficulties, (4) obtaining non-curricular experiences of professional value, and (5) acquiring and developing desirable qualities of leadership and personality. Records of a student's progress will be kept by the advisor for purposes of guidance and placement upon graduation.

The Department of The Professional Curriculum maintains an undergraduate counseling office and a graduate counseling office. A student planning to pursue any one of the several undergraduate or graduate curricula in the College of Physical Education and Health should request the assignment of an advisor as early as possible in his university

program. Further information may be obtained from the Office of the Head of the Department of the Professional Curriculum, Florida Gymnasium, Room 302.

PLACEMENT SERVICE

The College of Physical Education and Health operates a Placement Service for graduates and former students. All practical and desirable steps are taken to place graduates of the College in available and suitable positions. Persons who wish to avail themselves of this service should communicate with the Chairman of Placement Service, Room 302, Florida Gymnasium.

TEACHERS' CERTIFICATES

Graduates of the College of Physical Education and Health are granted certificates by the State Department of Education without further examination provided they have complied with the regulations of the State Board of Education covering the certification of teachers. These regulations are fully described in a bulletin on the certification of teachers, published by the State Department of Education in Tallahassee. It is imperative that students who expect to be certified familiarize themselves with these regulations, a copy of which is available in the office of each student's advisor.

INTERNSHIP PROGRAM

Students enrolled in the Physical Education, Health Education and Recreation curricula offered in this College are required to register for the internship program for one semester during their senior year. This program is required of students for certification by the State Department of Education unless the applicant has had several years of successful teaching experience. The student will be expected to live in the community in which he serves his internship.

RESEARCH

In order to better carry out its role in research, the College of Physical Education and Health conducts, coordinates, and encourages research through a research committee. This committee is ordinarily composed of staff members actively engaged in research activities. The facilities of the research laboratory are available to faculty and staff members as well as to graduate and undergraduate students in the college. Further information may be obtained from the Chairman, Research Committee, College of Physical Education and Health.

GENERAL REGULATIONS

University Student Regulations: The STUDENT REGULATIONS section of this catalog contains information of essential importance to all students. The regulations cover such points as (1) residence requirements, (2) attendance at Commencement, (3) maximum and minimum load, (4) amount of extension work permitted, (5) attendance at classes, and (6) suspension for poor scholarship.

Student Responsibility: The student must assume full responsibility for registering for the proper courses and for fulfilling all requirements for his degree. The faculty and the student's advisor will assist and counsel, but the student must take the initiative and assume responsibility for meeting all requirements.

The student's program of studies is subject to the approval of his advisor and the head of Department of The Professional Curriculum.

Each student is responsible for completing all courses for which he is registered. Courses can be dropped or changed without penalty only through the approval of the student's advisor.

Seniors must file formal application for degree in the Office of the Registrar and must pay the graduation fee early in the semester in which they expect to receive the degree; the calendar in the catalog shows the latest official date on which this can be done.

Student Petitions: If a student feels that the College regulations work a peculiar hardship or injustice in his case, he may petition for waiver of the regulation involved. Information on the procedure to be followed in submitting such petitions may be secured from the student's advisor.

UNDERGRADUATE DEGREES

The College of Physical Education and Health offers three undergraduate degrees: The Bachelor of Science in Physical Education, The Bachelor of Science in Health Education, and The Bachelor of Science in Recreation.

A student is required (1) to complete one of the curricula offered in this college; (2) to complete 66 semester hours in the Upper Division with an average of 2.0 or higher; (3) to complete 130 semester hours for the four-year period with an average of 2.0 or higher; and (4) to complete the course requirements in his major field with an average of 2.0 or higher.

In addition to completing the above requirements the student must have earned four *Activity Units* in approved extra-curricular activities. Experience shows that men and women are called on to perform many and varied services in their respective schools and communities. Participation in extra-curricular activities while in college contributes substantially to the success of persons entering the profession. Information concerning this requirement may be secured from the student's advisor.

GRADUATION WITH HONORS AND HIGH HONORS

A student who has completed the work of the Upper Division with a minimum honor point average of 3.2 or higher is eligible for consideration for graduation *With Honors* or *With High Honors*. Graduation *With Honors* or *With High Honors* is not determined solely on the basis of the Upper Division honor point average. Recommendation of the faculty is necessary. A student may consult his advisor for policies governing faculty recommendations.

GRADUATE DEGREE

Courses are offered by this College in the Graduate School leading to the degree of Master of Physical Education and Health or the degree Master of Arts in Physical Education and Health. Admission and degree requirements for graduates of accredited institutions are described in the Graduate School Bulletin.

CURRICULA

I. Curriculum in Physical Education for Men

Leading to the Degree of Bachelor of Science in Physical Education

This curriculum is designed to prepare students (1) to become teachers of physical education in schools and colleges; (2) to coach athletic teams; (3) to become directors of intramural and interscholastic athletic programs; (4) to serve in the school-community recreation program. Since many men are expected to teach more than one subject, the approved elective hours should be used to complete certification requirements in a second teaching field.

Admission: To register for this curriculum students must have completed the following courses while registered in the University College:

PHA. 251—Square and Social Dance, 2 credits
PHA. 283—Track and Baseball, 2 credits
PHA. 284—Team Games for Men, 2 credits
PHA. 287—Gymnastics for Men, 2 credits
EDF. 320—Social Foundations of Education, 3 credits
EDF. 245—Human Growth and Development, 3 credits

JUNIOR YEAR

First Semester	*Credits*
PHA. 281—Football	2
PHA. 285—Individual and Dual Sports for Men	2
PHA. 315—Applied Anatomy and Physiology	3
PHA. 373—Teaching Physical Education in the Elementary School	3
PHA. 391—Principles of Physical Education	3
Second Teaching Field Electives	4
	17

Second Semester	*Credits*
PHA. 282—Basketball	2
PHA. 286—Aquatics for Men	2
PHA. 325—Conduct of Playgrounds and Indoor Centers	3
PHA. 375—Adapted Physical Education	3
PHA. 376—First Aid and Injuries	2
Second Teaching Field Electives	5
	17

SENIOR YEAR

First Semester	*Credits*	*Second Semester*	*Credits*
PHA. 363—Teaching Physical Education in the Secondary School	3	EDS. 403—Internship: Secondary School Curriculum and Org.	3
PHA. 441—Administration of Physical Education and Athletics	3	EDS. 404—Internship: Methods and Materials for Classroom Use	3
PHA. 484—Tests and Measurements in Physical Education	2	EDS. 405—Internship: Teaching in the Secondary School	9
EDS. 305—The Secondary School Today	3		15
EDE. 400—Problems of Instruction	3		
Second Teaching Field Electives	3		
	17		

II. Curriculum in Physical Education for Women

Leading to the Degree of Bachelor of Science in Physical Education

This curriculum is designed to prepare students (1) to become teachers of physical education in schools and colleges; (2) to coach sports; (3) to direct intramural programs; (4) to serve in school-community recreation programs. Since many women are expected to teach more than one subject, the approved elective hours should be used to complete certification requirements in a second teaching field.

Admission: To register for this curriculum students must have completed the following courses while registered in the University College:

PHA. 251—Square and Social Dance, 2 credits
PHA. 252—Modern Dance, 1 credit
PHA. 243-254—Team Sports for Women, 2-2 credits
PHA. 255—Individual and Dual Sports for Women, 2 credits
PHA. 257—Gymnastics for Women, 1 credit
PHA. 258—Tennis and Golf for Women, 2 credits
PHA. 286—Aquatics, 2 credits
EDF. 320—Social Foundations of Education, 3 credits
EDF. 245—Human Growth and Development, 3 credits

JUNIOR YEAR

First Semester	*Credits*	*Second Semester*	*Credits*
PHA. 305—Teaching and Officiating Team Sports for Women	2	PHA. 306—Teaching and Officiating Team Sports for Women	2
PHA. 307—Teaching of Folk, Social and Tap Dance	2	PHA. 308—Teaching of Modern Dance	2
PHA. 315—Applied Anatomy and Physiology	3	PHA. 325—Conduct of Playgrounds and Indoor Centers	3
PHA. 373—Teaching Physical Education in the Elementary School	3	PHA. 375—Adapted Physical Education	3
PHA. 391—Principles of Physical Education	3	PHA. 376—First Aid and Injuries	2
Second Teaching Field Electives	4	Second Teaching Field Electives	5
	17		17

SENIOR YEAR

First Semester	*Credits*	*Second Semester*	*Credits*
PHA. 363—Teaching Physical Education in the Secondary School	3	EDS. 403—Internship: Secondary School Curriculum and Org.	3
PHA. 441—Administration of Physical Education and Athletics	3	EDS. 404—Internship: Methods and Materials for Classroom Use	3
PHA. 484—Tests and Measurements in Physical Education	2	EDS. 405—Internship: Teaching in the Secondary School	9
EDS. 305—The Secondary School Today	3		15
EDE. 400—Problems of Instruction	3		
Second Teaching Field Electives	3		
	17		

III. Curriculum in Health Education

Leading to the Degree of Bachelor of Science in Health Education

This curriculum is designed to prepare students (1) to become teachers of health education in schools and colleges; (2) to serve as coordinators of school health education programs; (3) to serve as health educators in state and county departments or voluntary health agencies; (4) to qualify for entrance into approved schools of public health for graduate work in health education. Since many teachers of health education are expected to teach more than one subject, the approved elective hours should be used to complete certification requirements in a second teaching field.

Admission: To register for this curriculum students must have completed the following courses while registered in the University College.

CY. 109-110—Elements of Chemistry, 3-3 credits
PHA. 261—Personal Hygiene, 3 credits
PHA. 262—Community Hygiene, 3 credits
BLY. 181—General Zoology, 4 credits
BTY. 180—Introductory Botany, 4 credits
EDF. 245—Human Growth and Development, 3 credits
EDF. 320—Social Foundations of Education, 3 credits

JUNIOR YEAR

First Semester	*Credits*	*Second Semester*	*Credits*
BCY. 300—Bacteria in Everyday Life	3	PHA. 351—Applied Anatomy and Physiology	3
BLY. 308—Invertbrate Zoology	4	PHA. 376—First Aid and Injuries	2
PHA. 361—Elementary School Health Program	3	PHA. 362—Secondary School Health Program	3
PHA. 369—School Safety Education	3	GY. 203—Elements of Physical Geology	3
SY. 201—Sociological Foundations of Modern Life	3	SY. 244—Marriage and the Family	3
Approved Electives	1	PHA. 421—Driver Education and Traffic Safety	3
	17		17

SENIOR YEAR

First Semester	*Credits*	*Second Semester*	*Credits*
EDS. 305—The Secondary School Today	3	EDS. 402—Internship: Secondary School Curriculum and Organization	3
EDE. 400—Problems of Instruction	3	EDS. 404—Internship: Methods and Materials for Classroom Use	3
BTY. 217—The Plant Kingdom	4	EDS. 405—Internship: Teaching in the Secondary School	9
BLY. Electives	2		
Approved Electives	5		
	17		15

IV. Curriculum in Recreation

Leading to the Degree of Bachelor of Science in Recreation

This curriculum is designed to prepare students to become leaders or directors of the community recreation, industrial recreation, summer camps, playgrounds, youth organizations, or local and state recreation services.

Admission: To register for this curriculum students must have completed the following courses while registered in the University College:

PHA. 251—Square and Social Dance, 2 credits
PHA. 253—Team Sports for Women, 2 credits
or PHA. 284—Team Games for Men, 2 credits
PHA. 255—Individual and Dual Sports for Women. 2 credits
PHA. 258—Tennis and Golf for Women, 2 credits;
or PHA. 283—Track and Baseball, 2 credits
EDF. 245—Human Growth and Development, 3 credits
SY. 201—Sociological Foundation of Modern Life, 3 credits

JUNIOR YEAR

First Semester	Credits
PHA. 285—Individual and Dual Sports for Men	2
IN. 330—Elementary Handcrafts	3
SCH. 201—Effective Speaking	3
MSC. 160—Music Skills	3
Approved Electives	6
	17

Second Semester	Credits
PHA. 225—Recreational Sports	2
PHA. 286—Aquatics	2
PHA. 325—Conduct of Playgrounds and Indoor Centers	3
MSC. 366—Music in Field of Recreation	3
PHA. 322—Camp Programs and Counselor Training	3
Approved Electives	4
	17

SENIOR YEAR

First Semester	Credits
PHA. 324—Social Recreation	3
PHA. 373—Teaching Physical Education in the Elementary Schools	3
PHA. 376—First Aid and Injuries	2
PHA. 446—Administration of Community Recreation	3
Approved Electives	6
	17

Second Semester	Credits
PHA. 499—The Operation of Recreation Programs	15
	15

The Physical Fitness and Sports Program of the College of Physical Education and Health

THE REQUIRED PHYSICAL EDUCATION PROGRAM FOR MEN AND WOMEN

The University Requirement:

Men and women students are required by the University to register for and participate satisfactorily in four semesters of physical education. Men students will complete PL 101, PL 102, PL 103, and PL 104 in the Lower Division. Women students will complete PL 151, PL 152, PL 153, and PL 154 in the Lower Division. The program requirement for transfer students to University College is adjusted on an individual basis by the Head of the Department of Required Physical Education for Men or Women. Students who are 26 years of age or older will not be required to participate in the physical education program. Students who are taking only one course will not be required to register for physical education.

The Curriculum for Men:

1. The Regular Program

   A. The Basic Program

   During his first semester a student shall engage in the following program of activities which shall be known as the Basic Program: conditioning activities, boxing, gymnastics and tumbling, track and field activities, rugged games, and functional health instruction. Students take a swimming test during this program. If a student fails to pass the test, he is strongly advised to enroll in a swimming class.

   B. The Sports Program

   A student shall satisfactorily pass three sports while assigned to the Sports Program. One activity will be taken each semester, and they must be taken consecutively until the program is completed. The sports in this program include Advanced Golf, Advanced Handball, Advanced Tennis, Archery,

Badminton, Basketball, Beginnign Swimming, Bowling, Casting, Golf, Gymnastics, Handball, Lacrosse, Senior Life Saving, Soccer, Social Dancing, Square Dancing, Swimming, Tag Football, Softball, Tennis, Volleyball, and Water Safety Instructors' Course.

2. The Adapted Program
   Students with physical limitations or deviations are assigned to a program of adapted physical education by the Department of Student Health.

The Curriculum for Women:

1. The Regular Program
   A. A student may participate in the following activities: Modern Dance, Social Dance, Square Dance, Archery, Badminton, Bait Casting, Body Conditioning Exercises, Bowling, Golf, Tennis, Basketball, Soccer, Speedball, Softball, Volleyball, Swimming, Senior Life Saving, or Water Safety Instructors' Course.
   B. Unless excused by the University physician, all women students while enrolled in their first semester of physical education are required to take a swimming test or a course in swimming. If a student fails to pass the test, she is strongly advised to enroll in a swimming class.
   C. Any student who has satisfactorily passed the requirements for four semesters of physical education may voluntarily participate in any activity approved by the Head of the Department of Required Physical Education for women. Any student entering the program must register, and after registering, shall be expected to attend her chosen class regularly.
2. The Adapted Program
   Students with physical limitations or deviations are assigned to a program of adapted physical education by the Department of Student Health.

Attendance at Class:

Regular attendance in Required Physical Education classes is necessary to meet the University attendance requirements. It is the policy of the Department that irregular attendance will be penalized as described under "Absence or Unsatisfactory Work" in the Student Regulations Section of the University Catalog.

Military Department

The University of Florida offers instruction in the Military Sciences as an integral part of its curricula. The Department of the Army and the Department of the Air Force each maintain a Reserve Officer's Training Corps (ROTC) and provide staffs of officers and detachments of enlisted men to provide for the administration and instruction of cadets.

BASIC COURSE, ARMY AND AIR FORCE

The Army and the Air Force Basic Courses include four semesters (2 school years) of instruction. The University requires that all physically fit male students, except certain veterans and transfer students, complete the Basic Course as a prerequisite to graduation. The completion of either the Army or the Air Force Basic Course discharges this obligation.

Students are issued uniforms and text books by the University and are held financially responsible for the care of such property and for its prompt return upon proper call.

ARMY ADVANCED COURSE

The Army Advanced Course includes four semesters (2 school years) of instruction at the University and six-weeks summer camp at a military installation, which normally is attended by the student at the end of his first year's Advanced Course work. Each student applicant for the Advanced Course must have completed the Army ROTC Basic Course or have had previous military training acceptable as a substitute therefor. Final selection of students for the Advanced Course is made by the President of the University and the Professor of Military Science. Flight (Pilot) training is available for selected Senior Cadets.

Students are issued regulation Army uniforms and text books. When a student receives his degree and commission, he retains all Advanced Course uniforms issued to him by the University. Each student receives from the United States Government a daily monetary subsistence allowance, presently totalling about $27.00 per month, which is paid monthly during the period of enrollment in the Advanced Course for not more than a total of 595 days. Students are paid travel to and from the six-weeks summer camp; while at camp they are provided quarters, rations and uniforms and are paid at the rate of $78.00 per month.

All students take the General Military Science course. Upon the student's successful completion of the Advanced Course and graduation, he is commissioned a second lieutenant in the United States Army Reserve in a branch of the Army as determined by a consideration of his choice, his academic major, his aptitude and the need of the Army.

Outstanding Advanced Course students are designated "Distinguished Military Students" and upon graduation from the University are designated "Distinguished Military Graduates." A Distinguished Military Student may apply for appointment as second lieutenant in the Regular Army at any time prior to his designation as "Distinguished Military Graduate." A number of University of Florida graduates accept Regular Army appointments each year.

AIR FORCE ADVANCED COURSE

The Air Force ROTC Advanced Course includes four semesters (2 school years) of instruction at the University; and a summer camp conducted at an Air Force base which is normally attended by the student at the end of his first year's Advanced Course work. Each student applicant for the Advanced Course must have completed the Basic Air Force ROTC Course or have had previous active military service acceptable as a substitute therefor. However, veterans entering the University who desire a commission through Air Force ROTC should contact the Professor of Air Science prior to registration. Applicants must have a C average academically to be eligible for acceptance into the Advanced Course. Final selection is made by the President of the University and the Professor of Air Science.

Students are issued regulation uniforms by the University. When the student receives his degree and commission he will retain all uniforms issued him by the University. The text books issued by the Department of Air Science are the property of the United States Air Force. The cadets are financially responsible for the care of such property and for its return upon proper call. Each student receives a daily monetary subsistence allowance, presently totaling about $27.00 per month, which is paid at the end of each calendar quarter during enrollment in the Advanced Course, but not more than a total of 609 days. Students are paid for travel to and from the summer camp; while at camp they are provided quarters, rations, and uniforms and are paid at the rate of $78.00 per month.

All students enrolled in either the Basic or Advanced Course Air Force ROTC will take the "Generalized" Program. This program is aimed primarily at acquainting the potential officer with the operation of all branches of the Air Force, teaching him the responsibility and duties of an Air Force officer and in general enabling him to assume his duties as an officer upon graduation. If accepted for flying training, the cadet will go to flying school in officer grade and receive full pay and allowances.

Upon completion of the cadet's Air Force ROTC program and receipt of his degree, he normally will be called to active duty and given an assignment commensurate with his academic major and the needs of the Air Force. Consideration is given to the desires of the student regarding his assignment.

Outstanding Air Force ROTC Advanced Course students who are appointed Distinguished Military Graduates are eligible for making application for a Regular commission.

STATUS OF STUDENTS WHO HAVE HAD MILITARY TRAINING AT OTHER SCHOOLS

Students transferring from other universities with Senior ROTC units are allowed college credit for Military or Air Science completed at such institutions, up to the amount allowed by the institution from which the transfer is made, provided such credit does not exceed four semester hours for the Basic Course. The eligibility for admission of such

students to Military and Air Science courses at the University of Florida is determined by the Professor of Military Science or the Professor of Air Science as appropriate. No credit is allowed in Air Science courses for Junior ROTC work.

DEFERMENT FROM SELECTIVE SERVICE

Within the limitations of assigned quotas, those students enrolled in the Army or Air Force ROTC who meet academic and other standards may be deferred from Selective Service induction provided they sign the prescribed deferment agreement. This agreement

provides that the applicant will complete the Basic Course, if enrolled therein; will enroll and complete the Advanced Course, if accepted therefor; will accept a commission if tendered; and will serve on active duty for a period of not less than two years after receipt of commission, subject to orders of the Secretary of the Army (Air Force) and will continue a member of a Regular or Reserve component of the Army (Air Force) until the eighth anniversary of his receipt ot commission. Deferments are terminated of those students who do not continue the course or whose academic work or conduct is such as to warrant the conclusion that they are not suitable officer material.

Basic Comprehensive Courses of The University College

C-1

INSTRUCTIONAL STAFF 1960-61

Boyd, M., Chairman; Atchley, M.H.; Baringer, W. E.; Bault, R. Q.; Blossom, T.; Cave, A. A.; Chalmers, D. M.; Chmielewski, E.V.; Clubok, A. B.; Conroy, S. S.; Davis, R. A.; Doherty, H. J.; Doty, F. A.; Dovell, J. E.; Downing, R. G.; Farnen, R. F.; Hellinger, J. W.; Hammond, E. A.; Hanna, P. L.; Hoffman, G. J.; Kaminsky, E.; McLean, E. B.; Mering, J. V.; Moses, C. C.; Osborn, G. C.; Payne, W. A.; Price, J. E.; Proctor, S.; Riggs, C. H.; Slaughter, J. E.; Smith, B. S.; Smith, J. G.; Spanier, J. W.; Standley, G.; Tilley, W. H.; Varney, C.; Wilson, H. A.; Wolff, G. E.; Yearley, C. K.; Young, M. M.

C-1 (11-12)—AMERICAN INSTITUTIONS. 8 credits
Offered 1, 2, 3. The course is designed to develop insight into the interrelated problems of present American institutions. The historical bases of our evolving institutions are demonstrated in science and technology, economic life, government, education, family life, and in religion. Such a study is undertaken to show the effect upon beliefs and values resulting from the tensions existing between the individual and his social institutions, and to suggest ways of achieving a greater degree of individual and collective adjustment.

C-2

INSTRUCTIONAL STAFF 1960-61

Knowles, H. L., Chairman; Bault, R. Q.; Broyles, A. A.; Bunting, D. C.; Cross, C. I.; Cutler, R. O.; Davis, R. A.; Dunkle, J. R.; Elliott, H. H.; Holley, C.; Lindquist, R. C.; Marcus, R. B.; Mundy, B. W.; Nolting, J. P.; Olsson, C. N.; Omer, G. C.; Pirkle, E. C.; Roberts, L. H.; Tunison, P. B.; Yoho, W. H.

C-2 (21-22)—THE PHYSICAL SCIENCES. 6 credits
Offered 1, 2, 3. The primary aim of the course is to give the student a working knowledge of the physical factors in the environment which affect the development of civilization, with its various cultures. The concepts are taken from the fields of astronomy, physical geography, meteorology and climatology, geology, chemistry, and physics.

C-3

INSTRUCTIONAL STAFF 1960-61

Wise, J. Hooper, Chairman; Ackerman, R. D.; Baughan, D. E.; Beirne, R. M.; Bigelow, G. E.; Boone, L. P.; Bowdre, P. H.; Bowers, R. H.; Bradshaw, J. P.; Carnell, C. S.; Childers, W. C.; Clark, W. A.; Constans, H. P.; Crist, R. L.; Cutler, R. J.; DeFalco, J. M.; Degnan, J. P.; Der, D. W.; Derrick, C.; Doepke, D. K.; Dusenbury, W. L.; Fogle, S. F.; Fox, G. G.; French, W. G.; Gehan, F. E.; Gray, C. F.; Greer, A. W.; Hart, T. A. E., Holden, E. S.; Irwin, E. E.; Jones, J. A.; Kirkland, E. C.; Lambert, R. E.; Langford, A. G.; Lee, R. C.; Levy, H. M.; Long, S. G.; Magazu, P. F.; McLeod, S. R.; Miles, G. S.; Morris, A. C.; Neale, J. R.; Ormond, W. N.; Penrod, J. A.; Scrimgeour, G. J.; Smith, J. H.; Spache, G. D.; Stryker, P. D.; Thurston, P. T.; Waldo, T. R.; Walker, B. H.; Warfel, H. R.

C-3 (31-32)—READING, SPEAKING, AND WRITING—FRESHMAN ENGLISH. 8 credits
Offered 1, 2, 3. A comprehensive course designed to enlarge the student's store of ideas and meanings and to increase his efficiency in the communication arts—reading, writing, speaking, and listening. The course provides practice in oral and silent reading, in thought analysis, in improving written and oral expression, in extending the vocabulary, and in making effective use of the body and voice in speaking. Students are encouraged to read widely to broaden their interests and to increase their ability to communicate effectively.

Sections of C-3 are reserved for students studying English as a second language.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

The Reading Laboratory and Clinic, maintained by C-3, offers assistance to students with reading handicaps. In addition, the Speech and Hearing Clinic serves C-3 students with speech and hearing difficulties.

EH 133—EFFECTIVE WRITING. 3 credits
Offered 1, 2, 3. Prerequisite: C-3, or permission of C-3 Course Chairman. Designed to aid the student to present his ideas in writing which is not only accurate and clear but also pleasing and attractive to the reader. Qualified students are encouraged to do imaginative writing.

EH 134—CONTEMPORARY READING. 3 credits
Offered 2, 3. Prerequisite: C-3, or permission of C-3 Course Chairman. Designed to aid the student to plan a well-rounded program in reading, to acquaint him with the best in contemporary thought, and to introduce him to the writing in his field of professional interest.

C-41
INSTRUCTIONAL STAFF 1960-61

Moore, W. E., Chairman; Bentley, G. R.; Childers, W. C.; Cox, E. H.; Elliott, H. H.; Fain, J. T.; French, W. G.; Haines, L. F.; Humphrey, R. C.; Johnson, J. A.; McLeod, S. R.; Palmer, J. N.; Riggs, C. H.; Sciadini, F.; Smith, J. H.; Standley, G. B.; Thurston, P. T.; Wickman, P. M.

C-41—EFFECTIVE THINKING. 3 credits
Offered 1, 2, 3. This course attempts to train the student to detect and resist common devices of persuasion used in propaganda and advertising, to avoid certain common errors in reasoning, to reason accurately from principles, to apply the methods of science to everyday problems, and to gain an understanding of and a measure of control over emotional and other psychological factors in thinking.

C-42
INSTRUCTIONAL STAFF 1960-61

Maxfield, J. E., Head; Awtrey, R. A.; Blake, R. G.; Cowan, R. W.; Day, J. M.; Gaddum, J. W.; Gager, W. A.; Gentry, R. V.; Hadlock, E. H.; Hill, N. W.; Hutcherson, W. R.; Jung, P. S.; Kenelly, J. W.; Lewis, K.; Lorenzen, F. J.; Meyer, H. A.; Minc, H.; Moore, J. T.; Moore, T. O.; Morales, J. A.; Morse, W. P.; Myers, F. C.; Patterson, P. B.; Pirenian, Z. M.; Row, A. W.; Sadler, S. G.; Savage, R. G.; Sellers, R. E.; Smith, C. B.; South, D. E.; Tilley, J. L.; Tucker, W. B.; Willard, D.

C-42—FUNDAMENTAL MATHEMATICS. 3 credits
Offered 1, 2, 3. A general education course at an elementary level containing the investigation of a mathematical system, the development of the ideas and techniques involved in that system, and the applications of these ideas and techniques in more general mathematical systems.

C-5
INSTRUCTIONAL STAFF 1960-61

Davidson, R. F., Chairman; Anderson, W. E.; Bigelow, G. E.; Blossom, T.; Bryan, R. A.; Carnell, C. S.; Carson, R. E.; Conroy, S. S.; Derrick, C.; Farnen, R. F.; Graeffe, A. D.; Groth, J. H.; Hart, T. A. E.; Humphrey, C. R.; Johnson, I.; Johnson, J. A.; Lambert, R. E.; Levy, H. M.; Lewis, A. L.; Lisca, P.; McCleary, R. C.; Mering, J. V.; Palmer, J. N.; Penrod, J. A.; Regan, M. J.; Ruff, W.; Sciadini, F.; Scrimgeour, G. J.; Smith, B. S.; Starr, N. C.; Storer, M. B.; Tilley, W. H.; Wilson, H. A.

C-5 (51-52)—THE HUMANITIES. 8 credits
Offered 1, 2, 3. A course designed to acquaint the student with the great literature, philosophy, art and music in Western Civilization. Both our cultural heritage and the culture of our own day are studied. Major emphasis is placed upon mature understanding, enlarged appreciation, and a philosophy of life adequate for the needs of our age.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

C-6

INSTRUCTIONAL STAFF 1960-61

Berner, L., Interim Chairman; Bovee, E. C.; Brodkorb, P.; DeWitt, R. M.; Dickinson, J. C.; Fouquette, M. J.; Goin, C. J.; Griffith, M. M.; Hetrick, L. A.; Hunter, G. W. III; Hussey, R. F.; Kilby, J. D.; Laessle, A. M.; Layne, J. N.; Leavitt, B. B.; Massey, W. C.; Maturo, F. J. S.; Mullins, T. J.; Nation, J. L.; Pierce, E. L.; Ray, C. E.; Riemer, W. J.; Smith, P. H.; Walker, T. J.; Wallbrunn, H. M.; Westfall, M. J.

C-6 (61-62)—BIOLOGICAL SCIENCE. 6 credits
Offered 1, 2, 3. A course designed to develop: (1) an understanding of and interest in the nature of organisms through a study of important basic biological concepts illustrated and supported by a suitable, carefully limited, selection of examples; (2) an appreciation of the contributions of the biological sciences to man's understanding of the world in which he lives, his material progress and his appreciation of the order, harmony and beauty of the world.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

Departmental Courses

Accounting

INSTRUCTIONAL STAFF 1960-61

Stone, W. E., Head; Almeida, J. S.; Anderson, C. A.; Austin, K. C.; Benninger, L. J.; Carson, M.; DaVault, J. W.; Deinzer, H. T.; Master, J. J.; Montgomery, J. B.; Moore, J. F.; Peterson, E. G.; Ray, D. D.; Schaeberle, F. W.; Scott, N. H.; Sterling, R. R.

Courses numbered 300 or higher are open only to students with junior standing or above. Courses numbered below 300 are not open to students with 4BA classification. Note, however, the specific prerequisites for certain courses.

ATG 211—ELEMENTARY ACCOUNTING. 3 credits
Offered 1, 2, 3. Accounting as a measure of business activity. Assumptions underlying accounting; recording and reporting transactions; and preparation and interpretation of financial and operating statements.

ATG 212—ELEMENTARY ACCOUNTING. 3 credits
Offered 1, 2, 3. Prerequisite: ATG 211. Accounting for different equity structures and for cost reporting and control. Intensive analysis of reports and statements.

ATG 311—INTERMEDIATE ACCOUNTING. 3 credits
Offered 1, 2, 3. Prerequisite: ATG 212. A study of the assumptions underlying income determination and the theories of matching costs with revenue. Asset acquisition valuation and expiration.

ATG 312—INTERMEDIATE ACCOUNTING. 3 credits
Offered 1, 2, 3. Prerequisite: ATG 311. Accounting problems resulting from the corporation organization. Special problems of analysis including those that arise as the result of changing price levels.

ATG 313—INDUSTRIAL ACCOUNTING. 3 credits
Offered 1, 2, 3. Prerequisite: ATG 212. Interpretation and control of costs. Various systems of cost accumulation and organization for analysis and control. Standards and simple variance analysis.

ATG 314—FEDERAL INCOME TAX SURVEY. 3 credits
Offered 1, 2. Internal Revenue Code, regulations and cases as applied to individuals. Designed for the general student. Not for accounting majors.

ATG 411—ADVANCED ACCOUNTING. 3 credits
Offered 1, 2, 3. Prerequisite: ATG 312. Special topics in income determination and equity accounting, including consolidations.

ATG 412—AUDITING. 3 credits
Offered 1, 2, 3. Prerequisite: ATG 312. Professional ethics, legal responsibilities, and auditing standards. Auditor's objectives, working papers, procedures and reports.

ATG 414—INCOME TAX ACCOUNTING. 3 credits
Offered 1, 2, 3. Prerequisite: ATG 311. Federal income tax law and related management and accounting problems. Preparation of returns for individuals and corporation, and use of research tools.

ATG 415—CORPORATE ACCOUNTING. 3 credits
Offered 1, 2, 3. Prerequisite: ATG 411. Corporate accounting problems in the area of consolidation, reorganization, quasi-reorganization, mergers and voluntary and involuntary liquidations.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

ATG 417—GOVERNMENTAL AND INSTITUTIONAL ACCOUNTING. 3 credits
Offered 1, 2, 3. Prerequisite or corequisite: ATG 311. Introduction to fund accounting, the budget process, account structure, and utilization of accounting data for significant reports.

ATG 418—ACCOUNTING PROBLEMS. 3 credits
Offered 1. Prerequisite: ATG 312. Applications of accounting principles to specialized problems.

ATG 419—CONTROLLERSHIP. 3 credits
Offered 1, 2. Corequisite: ATG 312 except for majors in management. Coordinating and administrative functions and managerial responsibilities of chief accounting and reports officer. Role of controller in business enterprise.

ATG 511—ACCOUNTING THEORY AND ITS APPLICATION. 3 credits
Offered 1, 3. Prerequisite: Permission of advisor. Critical examination of current developments in accounting theory and its relevance to the solution of practical accounting problems.

ATG 512—C.P.A. AUDITING PRACTICE. 3 credits
Offered 2. Prerequisite: ATG 412. Further study of auditors' objectives, working papers, procedures, and reports. Legal and ethical responsibilities of the professional auditor.

ATG 516—ACCOUNTING SYSTEMS AND DATA PROCESSING. 3 credits
Offered 1. Prerequisite or corequisite: ATG 312. Creation and operation of accounting systems. Analysis of existing systems in business and industry. Developments in data processing methods.

ATG 518—ACCOUNTING REPORTS. 3 credits
Offered 1. Prerequisite: ATG 412. Effective professional communication. Preparation of reports from audits and investigations. Reports for Securities and Exchange Commission.

ATG 519—ACCOUNTING PROBLEMS. 3 credits
Offered 2. Prerequisite: ATG 411. Analysis of theories and techniques involved in the solution of advanced accounting problems faced by public accountants and candidates for the C.P.A. examinations.

ATG 520—ACCOUNTING SERVICES TO MANAGEMENT. 3 credits
Offered 2, 3. Prerequisite: permission of advisor. A study of the role of the C.P.A. as a consultant in various functions of his client's business. A consideration in depth of practical methods and techniques used in rendering these services.

ATG 590—ACCOUNTING SURVEY. 3 credits
Offered 2. Survey course designed to give graduate students an' understanding of principles and functions of subject. Principles governing determination of income, asset valuation, accounting for equities, for corporation securities, analysis and interpretation of reports and relationship of accounting to economics. May not be taken by students who have completed ATG 211-212, nor may it be counted as part of the 30 hours required for a Master's degree.

ATG 593—COST ACCOUNTING THEORY AND APPLICATIONS. 3 credits
Offered 1. Prerequisite: ATG 313. Managerial uses of cost accounting; standard cost procedures; and distribution cost analysis. Application of basic cost accounting principles through problem solving.

ATG 594—INCOME TAX ACCOUNTING AND RESEARCH. 3 credits
Offered 2. Prerequisite: ATG 414. Application of federal tax concepts to partnerships, estates and trusts, and corporate capital transactions. Considerations in tax practice.

GRADUATE COURSES

For admission to courses listed below, the student must have been admitted to the Graduate School and normally should have had undergraduate courses in fields pertinent to the graduate courses selected; or where necessary, special arrangements may be made with the approval of the department head.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

Though no graduate major may be completed without adequate course work on the 600 or higher level, certain undergraduate courses in accounting are available for graduate credit as a part of a candidate's major. These courses are: ATG 414—Income Tax Accounting; ATG 415—Corporate Accounting; ATG 417—Governmental and Institutional Accounting; ATG 419—Controllership; ATG 512—C.P.A. Auditing Practice; ATG 516—Accounting Systems and Data Processing; ATG 518—Accounting Reports; ATG 519—Accounting Problems; ATG 593—Cost Accounting Theory and Applications; ATG 594—Income Tax Accounting and Research.

ATG 611—ACCOUNTING THEORY. 3 credits

ATG 612—AUDITING DEVELOPMENTS. 3 credits

ATG 613—COST AND BUDGETARY ACCOUNTING. 3 credits

ATG 614—RESEARCH IN INCOME TAX ACCOUNTING. 3 credits

ATG 617—GOVERNMENTAL ACCOUNTING. 3 credits

ATG 630—INDIVIDUAL WORK IN ACCOUNTING. 3 credits

ATG 699—RESEARCH AND MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

ATG 718—EVOLUTION OF ACCOUNTING THEORY AND PRACTICE. 3 credits

Advertising

INSTRUCTIONAL STAFF 1960-61

Weimer, R. O., Director; Seil, M. D.; Tittle, A. C.

The offerings in Advertising are designed primarily for training professional advertising men and women in newspaper, magazine, radio and television advertising fields, as well as for careers with advertising and public relations agencies. These courses, however, may be taken for elective credit by students in all Upper Division units of the University. Students who are interested in major work in Advertising, Journalism, Radio, Television and Public Relations are also referred to course offerings under Broadcasting and Journalism and to the requirements of the School of Journalism and Communications.

ADV 306—ELEMENTS OF ADVERTISING. 3 credits
The role of advertising in a free economy, and its place in the media of mass communications. A study of advertising appeals, product and market research, selection of media, testing of advertising effectiveness, organization of the advertising profession.

ADV 310—ADVERTISING COPY AND LAYOUT. 3 credits
Offered 1, 2. Prerequisite: JM 305 and MKG 333. Theory and practice of writing copy and preparing layouts for printed advertising; budgeting and scheduling classified and display advertising in periodicals.

COURSES FOR ADVANCED UNDERGRADUATES

ADV 502—RADIO-TV ADVERTISING. 3 credits
Offered 1, 2. Prerequisite: JM 201 or permission of instructor. Study of economics, standards, and ethics of radio and television advertising copy. Preparation and presentation of commercial broadcast copy.

ADV 512—ADVERTISING CAMPAIGNS. 3 credits
Offered 1, 2. Prerequisite: ADV 310 and ADV 502. An advanced advertising course requiring the student to prepare and produce complete retail and general advertising campaigns. Emphasis is placed on production methods, materials and costs.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

ADV 560—ADVERTISING SEMINAR. 2 credits
Offered 1, 2. Prerequisite: 15 hours of professional work in advertising. A seminar bringing together the work of the preceding advertising courses, and projecting this knowledge to the solution of problems that will arise in the professional field. Three-day field trip required.

GRADUATE COURSES

Students interested in graduate work in advertising are referred to course offerings under Journalism.

Aeronautical Engineering

INSTRUCTIONAL STAFF 1960-61

Clarkson, M. H., Head; Hoover, J. W.; Miller, W. H.; Williams, D. T.; Ross, C. A.
AN 240—AIRCRAFT, MATERIALS AND PROCESSES, 3 credits. Prerequisites: CY 218, PS 205. A course designed to acquaint the student with the requirements of materials for use in flight vehicles, the evaluation of various materials, and the processes involved in putting them into service.

AN 301—INTRODUCTORY AERODYNAMICS, 3 credits
Offered 1. Prerequisites: AN 240, PS 206, MS 354, EM 365. Corequisites: ML 385, EM 366. Classification and requirements of aircraft. The atmosphere, fundamental dynamics and thermodynamics of air; types of fluid flow, airfoil theory; wing theory; propeller theory.

AN 302—INTERMEDIATE AERODYNAMICS. 3 credits
Offered 2. Prerequisites: EM 366, AN 301, ML 385. Corequisite: AN 360. Drag calculations; engine-propeller characteristics; performance calculation; theory and design of control surfaces; longitudinal, directional, and lateral stability calculations; aerodynamic problems.

AN 312—SUBSONIC WIND TUNNEL LABORATORY. 1 credit
Offered 2. Corequisite: AN 302. Subsonic wind tunnel experimentation. Experiments on tunnel calibration, boundary layer survey, wake survey, pressure distribution, force measurement on models, turbulence. Methods and equipment used in aerodynamics research.

AN 342—AIRCRAFT STRUCTURAL ANALYSIS. 3 credits
Offered 2. Prerequisites: EM 366, EM 367, AN 240. Principles of analysis of static and dynamic loadings on various types of aircraft structure. Shear and bending in beams and box structures. Unsymmetrical bending. Shear flow and shear center. Typical semimonocoque structures.

AN 360—SUBSONIC AIRCRAFT PROPULSION. 3 credits
Offered 2. Prerequisites: ML 385, AN 301. Corequisite: AN 302. A review of the principles of reciprocating engines. Effects of altitude airspeed on power, ignition and cooling. Detonation of fuels, power limitation due to pressure drop through orifices. Principles of turbojet compressor and turbine design.

AN 403—AERODYNAMICS. 3 credits
Offered 1. Prerequisite: AN 302. An introduction to supersonic aerodynamics, nozzle flow, normal and oblique shocks, two and three dimensional flow.

AN 406—INTRODUCTION TO ROTORCRAFT ANALYSIS. 3 credits
Prerequisite: AN 302 and permission of the instructor. Types of rotorcraft. Review of airscrew theory. Vertical flight and descent of a rotor. Forward motion. Performance. Stability and control. Structural considerations.

AN 413—FLIGHT TESTING AND SUPERSONIC WIND TUNNEL LABORATORY. 1 credit
Offered 1. Corequisite: AN 403. Supersonic wind tunnel experimentation. Schlieren shock observation and pressure measurements in supersonic flow.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

AN 431—INTRODUCTION TO AEROELASTICITY. 3 credits
Offered 1. Prerequisites: MS 420 or MS. 521, AN 302. Corequisite: AN 443. Elementary vibrating systems. Dissipating and driven oscillators; auto oscillation. Systems with several degrees of freedom. The Lagrange equations. Divergence of lifting surfaces. Introduction to wing and empennage flutter.

AN 443—AIRCRAFT STRUCTURES 1. 3 credits
Offered 1. Prerequisites: EM 366, EM 367, CL 368, AN 342. Determination of loads on aircraft. Spanwise lift distribution. Basic flight loads. Mechanical properties of materials. Joints and fittings. Structure design of members in tension, bending and tension. Columns and compression structures.

AN 444—AIRCRAFT STRUCTURES II. 3 credits
Offered 2. Prerequisite: AN 443. Shear buckling of plates. Tension field and semitension field webs. Angular deflections. Castigliano's theorem. Statically indeterminate structures. Rings and frames. Multiple cell structure. Special methods.

AN 454—AIRCRAFT STRUCTURES LABORATORY. 1 credit
Offered 2. Prerequisite: AN 443. Corequisite: AN 444. Methods and measurement in structural testing. Determination of strains, stresses, deflections. Tests on typical structures. Use of strain measuring equipment. Dynamic loading. Temperature effects on strength. Report preparation.

AN 461—SUPERSONIC FLIGHT PROPULSION. 4 credits. Offered 1. Prerequisite: Permission of the instructor. Ramjets. Evaluation of propulsion. High performance rocket thrust systems. Liquid and solid fueled chemical rockets. Components of fuel systems—pumps, power supplies, guidance jets.

AN 485—AIRPLANE DESIGN. 3 credits
Offered 1. Prerequisites: AN 302, AN 240, AN 360. Corequisites: AN 403, AN 443. Preliminary aircraft design procedure, aircraft characteristics and design criteria, useful load, powerplant selection, weight and balance estimates; cockpit and cabin arrangements; design of lifting and stabilizing elements, fuselage, alighting gear, control system; powerplant installation design; performance, stability and strength calculations for specific design; principles of layout and detail design.

AN 486—AIRPLANE DESIGN. 3 credits
Offered 2. Prerequisite: AN 485. Corequisite: AN 444. The second half of the course AN 485-486.

AN 491—SEMINAR. 1 credit
Offered 1. Corequisite: Senior Engineering Classification. A seminar period devoted to student presentation of special topics of Aeronautical Engineering, professional procedure and conduct.

AN 492—SEMINAR. 1 credit
Offered 1. Corequisite: Senior Engineering Classification. The second half of the course AN 491-492.

AN 496—PROBLEMS IN ASTRONAUTICS. 3 credits
Prerequisite: AN 461. Statellite and interplanetary orbits. Perturbation theory. A review of dynamic meteorology. The ionized layers in the exosphere. Cosmic radiation. Physiological problems of space flight. Re-entry.

GRADUATE COURSES

AN 631—AEROELASTICITY. 3 credits

AN 632—AEROELASTICITY. 3 credits

AN 661—ASTRONAUTICAL MECHANICS. 3 credits

AN 681—ADVANCED AERONAUTICAL DESIGN. 3 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

AN 682—ADVANCED AERONAUTICAL DESIGN. 3 credits

AN 683—AERONAUTICAL RESEARCH. 3 credits

AN 684—AERONAUTICAL RESEARCH. 3 credits

AN 685—ADVANCED AERODYNAMICS. 3 credits

AN 686—ADVANCED AERODYNAMICS. 3 credits

AN 691—SPECIAL TOPICS IN AERONAUTICAL ENGINEERING. Variable credit

AN 692—SPECIAL TOPICS IN AERONAUTICAL ENGINEERING. Variable credit

AN 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits.

Agricultural Economics

INSTRUCTIONAL STAFF 1960-61

Hamilton, H. G., Head; Alleger, D. E.; Brooke, D. L.; Cake, E. W.; Clark, H. B.; Godwin, M. R.; Greene, R. E. L.; Greenman, J. R.; McPherson, W. K.; Murphree, C. E.; Riggan, W. B.; Sarle, C. F.; Savage, Zach; Smith, C. N.; Spurlock, A. H.

AS 201—PRINCIPLES OF AGRICULTURAL ECONOMICS. 3 credits
Offered 1, 2, 3. An introduction to the field of agricultural economics; principles of economics as applied to agriculture; economic problems of the agricultural industry and the individual farmer.

AS 303—FARM RECORDS. 3 credits
Offered 1. Accounting procedures applied to agriculture businesses. Double-and single-entry accounting; methods and practice of making farm inventories; keeping financial, feed and crop records; preparing simple income tax statements.

AS 304—FARM FINANCE AND APPRAISAL. 3 credits
Offered 2. Prerequisite: AS 201 or equivalent. The principles of credit and problems peculiar to financing farmers and farmers' associations. Special attention to modern land appraisal principles and methods. One field trip usually required.

AS 306—FARM MANAGEMENT. 3 credits
Offered 1, 2. Prerequisite: AS 201 or equivalent. Introduction to the principles of farm management. Types of farming in Florida and the United States, and factors which determine types of farming. The causes of success and failure of farms and farmers. Problems of labor, machinery, layout of farms, farm reorganization, and such.

AS 308—MARKETING. 3 credits
Offered 1, 2, 3. Prerequisite: AS 201 or equivalent. Basic principles of marketing with emphasis placed on market functions, services, and organizations; elementary theory of demand and prices; commodity exchanges and futures trading; transportation; grades and standards; market news; methods of increasing efficiency of markets; the role of co-ops and government in marketing. One field trip required.

AS 310—AGRICULTURAL STATISTICS. 3 credits
Offered 1, 3. Statistical description and inference; an introduction to measures of location and variation, probability and theoretical distributions, confidence interval, tests of significance, linear regression, correlation, index numbers and time series data.

AS 311—RURAL LAW. 3 credits
Offered 1. How laws are made and the kinds of law. Contracts and real and personal property law and their application to the purchase of property. Landlord-tenant and debtor-creditor relationships. Consideration of farm boundaries, fences, stock laws, inheritance laws, and other laws of special interest to those engaged in farming and related businesses.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

AS 404—PRINCIPLES OF FARM BUSINESS ANALYSIS. 1½ credits
Offered 3. This course is designed to help students understand how basic economic principles can be applied in the successful management and operation of a farm. Laboratory work will entail field trips to different types of farms with emphasis on business analysis and application of economic principles as related to problems of farm organization, machinery, labor, production rates, and such.

AS 405—AGRICULTURAL PRICES. 3 credits
Offered 1. Prerequisite: AS 201 or equivalent. Major factors affecting agricultural prices; supply-price relationships, seasonal and cyclical fluctuations, relation of national income and fiscal policy to prices; the bridging of the gap between economic theory and agricultural business.

AS 408—MARKETING FRUITS AND VEGETABLES. 3 credits
Offered 2. Prerequisite: AS 201 or equivalent. A comprehensive examination of the economic aspects of assembling, transporting, wholesaling and retailing vegetables and citrus fruits. A two-day field trip to observe the practical application of marketing principles is required.

AS 409—COOPERATIVE MARKETING. 3 credits
Offered 1. Prerequisite: AS 201 or equivalent. Cooperative buying and selling organizations, their successes and failures. Methods of organization, financing, and business management. A two-day field trip is required.

AS 411—ADVANCED AGRICULTURAL STATISTICS. 3 credits
Offered 2. Prerequisite: AS 310 or equivalent. Statistical inference. Measures of location, variation and covariation. Point and interval estimates and tests of significance. Observed and theoretical distributions. Introduction to sampling and experimental designs. Analysis of variance. Linear, non-linear, simple and multiple regression. Goodness of fit and contingency table. Introduction to time series analysis.

AS 412—LAND ECONOMICS. 3 credits
Offered 1. Prerequisite: AS 201 and ES 201, or equivalent. A study of principles governing the use of agricultural, forest, range and recreational land in Florida and the Caribbean area with emphasis on supply and demand, location, economic value, tenure, taxation and conservation. One field trip required.

AS 413—AGRICULTURAL POLICY. 3 credits
Offered 2, 3. Prerequisite: AS 201 or equivalent. A history of farmer attempts and accomplishments through organization and legislation to improve the economic and social status of agriculture. The basic problems and concepts involved in developing and carrying out agricultural policy. Evaluation of present legislative programs and policies affecting the farmer.

AS 414—TERMINAL MARKETS AND COMMODITY EXCHANGES. 1 credit
Offered 2. Prerequisite or corequisite: AS 308 or consent of instructor.

An extensive study of the terminal market organizations and facilities for agricultural products, including the commodity exchanges. Visitation and inspection of firms and facilities in large terminal markets in the East or Midwest will entail a field trip of from eight to ten days. This field trip will be taken during the interim between the fall and spring semesters. A deposit of $50.00 for a laboratory field trip is required at the time of registration. Any amount not actually used for transportation cost will be refunded. An additional sum may be required at the time that the trip is made. Participation in this course is contingent upon notifying the instructor of intention to register not later than the beginning of the examination period for the fall term.

AS 420—MARKETING OF LIVESTOCK. 3 credits
Offered 2. Prerequisite: AS 201 or equivalent, and three hours of animal husbandry. A study of economic principles as applied in the marketing of livestock products and livestock including the characteristics of supply and demand, how prices are determined and discovered, the cyclic nature of livestock and meat prices, and the functions and services performed by marketing firms and agencies.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

AS 501—RESEARCH PROBLEMS IN LAND ECONOMICS. 3 credits
Offered 1, 2, 3. Prerequisite: Consent of instructor. Economic problems created by changing the use of land resources. Each student selects a problem, conducts research on that problem and prepares a written report. Students majoring in other departments, i.e., animal husbandry, agronomy, soils, forestry, community planning, Latin American programs, etc. are encouraged to select problems that will help them evaluate the economic and social impact of the progress in their respective fields on the natural resource base.

AS 503—ADVANCED FARM MANAGEMENT. 3 credits
Offered 2. Prerequisite: AS 306 or equivalent, and consent of instructor. Principles of production economics as applied to the management of a farm; general farm management principles; management by types of farming in Florida.

AS 513—SUCCESSFUL MARKETING FIRMS. 3 credits
Offered 1. A study of successful marketing firms with emphasis on managerial problems and methods of solving these problems. The case study approach is used. Eight one-day field trips are required.

AS 520—SAMPLING METHODS. 3 credits
Offered 1. Prerequisite: AS 411 or AY 650. Basic principles of probability sampling and their application to farm, marketing and related socio-economic survey research problems. Control of sampling errors and survey costs by use of identical samples, proportionate and disproportionate stratified, cluster, area and multi-stage sampling, and by ratio and regression estimation.

GRADUATE COURSES

AS 601—AGRICULTURAL ECONOMICS SEMINAR. No credit

AS 602—AGRICULTURAL ECONOMICS SEMINAR. No credit

AS 603—ECONOMICS OF AGRICULTURAL PRODUCTION. 3 credits

AS 604—ECONOMICS OF AGRICULTURAL PRODUCTION. 3 credits

AS 605—PROBLEMS IN FARM MANAGEMENT. 3 credits

AS 608—LAND ECONOMICS. 3 credits

AS 611—PROBLEMS IN MARKETING AGRICULTURAL PRODUCTS. 2 or 3 credits

AS 614—ADVANCED MARKETING OF AGRICULTURAL PRODUCTS. 3 credits

AS 615—NATIONAL AND INTERNATIONAL AGRICULTURAL PROGRAMS. 3 credits

AS 616—RESEARCH METHODS AND TECHNIQUES IN AGRICULTURAL ECONOMICS. 3 credits

AS 617—FARM TENURE. 3 credits

AS 618—RESEARCH METHODS IN MARKETING FARM PRODUCTS. 2 credits

AS 619—RESEARCH METHODS IN FARM MANAGEMENT. 2 credits

AS 621—SAMPLING THEORY. 3 credits

AS 622—MARKET DEVELOPMENT RESEARCH. 3 credits

AS 628—PROBLEMS IN STATISTICS. 2 or 3 credits. Maximum 6 credits

AS 629—DESIGN OF SAMPLE SURVEYS. 3 credits

AS 650—STATISTICAL METHODS IN RESEARCH. 3 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

AS 651—ECONOMIC METHODS IN AGRICULTURE. 3 credits

AS 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

AS 799—DOCTORAL DISSERTATION. 1 to 12 credits

Agricultural Engineering

INSTRUCTIONAL STAFF 1960-61

Kinard, D. T., Head; Choate, R. E.; Holmes, E. S.; Myers, J. M.; Richardson, J. B.; Rogers, C. J.; Ross, I. J.

AG 301—AGRICULTURAL WATER MANAGEMENT. 3 credits
Offered 1, 2, 3. Prerequisites: SLS. 310 and upper division classification. The fundamental principles of and the need for water management in modern agricultural production.

AG 302—FARM POWER. 3 credits
Offered 1, 2, 3. Prerequisite: upper division classifiication. Principles of operation and economic adaptability of the various types of farm power units and component systems; carbureting, diesel, and electric units are considered.

AG 303—FARM SHOP. 3 credits
Offered 1, 2. Principles and practices of farm construction in metal, wood, and masonry. Welding, machinery repair, framing of farm structures, wiring, plumbing, and farm concrete work.

AG 306—FARM MACHINERY. 3 credits
Offered 1, 2, 3. The functional requirements, operating principles, performance, safety, and economic application of agricultural field machines and mechanized systems of production.

AG 311—FARM ELECTRIFICATION AND UTILITIES. 3 credits
Offered 2, 3. Prerequisite: upper division classification. Principles involved in the effective use of electricity and other fuels for agricultural operations and processes.

*AG 315—AGRICULTURAL DRAINAGE AND IRRIGATION ENGINEERING. 3 credits.
Offered 2. Prerequisites or corequisites: EM 313 or EM 327, and SLS 310. The engineering principles of design, construction, operation, and maintenance of agricultural drainage and irrigation systems.

*AG 318—AGRICULTURAL FIELD MACHINES. 3 credits
Offered 2. Prerequisite: EM 366. Machines and mechanized systems in agricultural production; functional requirements, operating characteristics, safety, economic considerations, and selection; trends in design and development of new machines.

AG 401—FARM BUILDINGS. 3 credits
Offered 1, 2, 3. Prerequisite: upper division classification. Selection and use of farm building materials, functional requirements for housing livestock, poultry, and crop products; cost interpretation of building plans and specifications.

AG 403—SPECIAL TOPICS—2 credits
Offered 2. Prerequisite: four courses in agricultural engineering. Preparation of special reports on topics of current interest in the field of agricultural engineering.

AG 405—SYSTEMS FOR PROCESSING AGRICULTURAL PRODUCTS. 3 credits
Offered 1. Prerequisite: upper division classification. The functional requirements and principles of operation of systems for the handling and processing of agricultural products.

AG 407—FARM SHOP POWER EQUIPMENT. 3 credits
Offered 1, 2. Prerequisites: AG 303 and upper division classification. The care, operation, and repair of both metal and woodworking power shop equipment used in the construction and repair of farm buildings and equipment.

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*Courses offered primarily for students in The College of Engineering.
The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

AG 408—SOIL AND WATER CONSERVATION. 3 credits
Offered 2. (Identical with SLS 408). Prerequisites: AG 301 and SLS 310. The social and economic aspects of soil deterioration. Principles involved in soil and water conservation and methods of control as applied to Florida will be carefully developed. Given jointly with the Department of Soils.

*AG 409—SEMINAR. 1 credit
Offered 2. Discussions of current developments in the field of agricultural engineering.

*AG 412—AGRICULTURAL TRACTORS AND POWER UNITS. 4 credits
Offered 1. Prerequisites: AG 318 and ML 385. Analysis of power requirements in agricultural production; correlation of principles of design, engine characteristics, and basic configuration of tractive and stationary power units with functional requirements.

*AG 415—SOIL AND WATER CONSERVATION ENGINEERING. 3 credits Offered 1. Prerequisite: AG 315. The design and adaptation of terraces, waterways, dams, reservoirs, and other erosion control structures; relationships of rainfall, slopes, soils, crops, and practices in soil and water conservation on agricultural land.

*AG 418—FARM STRUCTURES AND EQUIPMENT. 4 credits
Offered 1. Prerequisite: EM 367. Construction materials, structural features, and design, functional planning and layout of buildings for economy and convenience; waste disposal, preparation of plans and specifications.

*AG 435—AGRICULTURAL PROCESS ENGINEERING. 4 credits
Offered 2. Prerequisites: EL 343 and EM 313 or EM 327. Principles of handling and processing of agricultural products; functional requirements of equipment and systems for such operations as conditioning, curing, drying, conveying, and mixing.

GRADUATE COURSES

AG 601—SEMINAR. 0 credit

AG 602—RESEARCH METHODS IN AGRICULTURAL ENGINEERING. 3 credits

AG 603—INSTRUMENTATION IN AGRICULTURAL ENGINEERING RESEARCH. 3 credits

AG 670—NON-THESIS RESEARCH IN AGRICULTURAL ENGINEERING. 3 credits. Maximum 6 credits

AG 671—ADVANCED SOIL AND WATER MANAGEMENT ENGINEERING. 3 credits

AG 672—ADVANCED FARM MACHINERY, 3 credits

AG 673—ADVANCED FARM BUILDINGS. 3 credits

AG 674—ADVANCED AGRICULTURAL PROCESS ENGINEERING. 3 credits

AG 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

Agricultural Extension

INSTRUCTIONAL STAFF 1960-61

Senn, P. H., Head; Grigsby, S. E.; Watkins, M. O.

AXT 301—RURAL LEADERSHIP. 3 credits.
Offered 2. Prerequisite: Junior standing. The duties of county agricultural agents and other rural leaders. Trains students to meet the public, interest farmers, conduct meetings, demonstrate good farming practices, plan programs, manage an office, and secure cooperation.

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* Courses offered primarily for students in The College of Engineering
The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

AXT 407—AGRICULTURAL EXTENSION YOUTH PROGRAMS. 3 credits.
Offered 2. Prerequisite: Junior standing. Designed to train students to develop and conduct 4-H Boys' and Girls' Club work and other Extension rural youth programs.

AXT 421—PROBLEMS IN AGRICULTURAL EXTENSION METHODS. 1 to 3 credits per semester, maximum 6 credits.
Offered 1, 2, 3. Prerequisite: Consent of instructor. Topics and special problems selected from such fields of Agricultural Extension as 4-H Club work, demonstrations, farm and home management, and rural development.

GRADUATE COURSES

AXT 601—ADVANCED RURAL LEADERSHIP. 1½ credits. Maximum 6 credits.

AXT 604—AGRICULTURAL EXTENSION THROUGH GROUP ACTION. 1½ credits.

AXT 621—RESEARCH IN AGRICULTURAL EXTENSION. 1 to 3 credits.
Maximum 6 credits.

Agronomy

INSTRUCTIONAL STAFF 1960-61

Senn, P. H., Head; Ash, W. O.; Carver, W. A.; Edwardson, J. R.; Harris, H. C.; Horner, E. S.; Hull, F. H.; Killinger, G. B.; Linden, D. B.; Norden, A. J.; Rodgers, E. G.; Ruelke, O. C.; Schroder, V. N.; Wallace, A. T.

AY 221—GENERAL FIELD CROPS. 3 credits.
Offered 1. Scientific and technical training in the production of grain, fiber, sugar, peanut, tobacco, forage and miscellaneous field crops.

AY 324—FORAGE AND COVER CROPS. 3 credits.
Offered 2. Scientific and technical study of plants that produce feed for livestock and utilized in conservation programs.

AY 329—GENETICS. 3 credits.
Offered 1, 3. The science of inheritance and its application to the improvement of economic plants and animals and in programs for human betterment.

AY 331—GENETICS LABORATORY. 2 credits.
Offered 1. Laboratory methods in the application of genetic principles, with breeding experiments which illustrate the laws of inheritance. Designed to be taken in conjunction with AY 329.

AY 422—PLANT BREEDING. 3 credits.
Offered 2. Prerequisites: BTY 180 and AY 329 or equivalent. The art and science of plant improvement. Artificial pollination hybridization, and field plot techniques employed in modern plant breeding.

AY 426—INDIVIDUAL PROBLEMS IN AGRONOMY. I to 3 credits per semester, maximum 6 credits
Offered 1, 2, 3. Prerequisite: Consent of instructor. Scientific study of individual problems selected from the fields of crop production, weed control, genetics, or plant breeding.

AY 436—PASTURES. 3 credits
Offered 2. Prerequisite: AY 324. Utilizing the results of scientific research with forage plants in developing and managing grazing areas.

AY 442—WEED CONTROL. 3 credits
Offered 2. Prerequisites: BTY 180 and CY 217. Weed identification, competition with crop plants, and mechanical, cultural and chemical methods of weed control.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

AY 452—EXPERIMENTAL METHODS. 3 credits
Offered 1. Introduction to statistical methods employed in field plot, greenhouse, and laboratory research. Elementary experimental designs and tests of significance, interpretation and disposition of research results.

AY 492—AGRONOMY SEMINAR. 1 credit.
Offered 1. Selected readings, reports and discussions of current agronomic developments. Required of all students majoring in agronomy.

GRADUATE COURSES

AY 626—AGRONOMIC PROBLEMS. 1 to 3 credits. Maximum 9 credits.

AY 627—PROBLEMS IN GENETICS AND CYTOGENETICS. 1 to 3 credits. Maximum 6 credits.

AY 628—PROBLEMS IN STATISTICS. 1 to 3 credits. Maximum 6 credits

AY 635—CROP ECOLOGY. 3 credits

AY 641—CROP NUTRITION. 2 credits

AY 646—TOPICS IN GENETICS. 1 to 3 credits. Maximum 9 credits

AY 650—STATISTICAL METHODS IN RESEARCH. 3 credits

AY 651—DESIGN OF EXPERIMENTS. 3 credits.

AY 654—ADVANCED DESIGN OF EXPERIMENTS. 3 credits

AY 655—THEORY OF REGRESSION AND EXPERIMENTAL DESIGN. 3 credits

AY 660—CYTOGENETICS. 2 credits

AY 662—ADVANCED GENETICS. 3 credits

AY 665—ADVANCED PLANT BREEDING. 3 credits

AY 682—GENETICS SEMINAR. 1 credit. Maximum 3 credits

AY 692—GRADUATE AGRONOMY SEMINAR. 1 credit. Maximum 3 credits

AY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits.

AY 799—DOCTORAL DISSERTATION. 1 to 12 credits

Animal Husbandry and Nutrition

INSTRUCTIONAL STAFF 1960-61

Cunha, T. J., Head; Ammerman, C. B.; Arrington, L. R.; Carpenter, J. W.; Combs G. E., Jr.; Davis, G. K.; Feaster, J. P.; Hentges, J. F., Jr.; Koger, M.; Loggins, P. E.; Palmer, A. Z.; Shirley, R. L.; Wallace, H. D.; Warnick, A. C.; Wakeman, D. L.

AL 209—GENERAL ANIMAL HUSBANDRY. 3 credits
Offered 1, 2, 3. A terminal course open only to students not majoring in Animal Husbandry and Nutrition. Principles of livestock production.

AL 211—BREEDS, TYPES AND CLASSES OF LIVESTOCK. 3 credits
Offered 1, 2, 3. Types and market classifications of meat animals; breed characteristics and evaluation of pedigrees of beef cattle, swine, sheep and horses; selection of market and breeding animals.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

AL 312—FEEDS AND FEEDING. 4 credits
Offered 2. Prerequisites: CY 215, 217. Composition of plants and animals; feeding standards and rations for farm animals and poultry.

AL 314—LIVESTOCK JUDGING. 1 credit
Offered 1. Prerequisite: AL 211. Special training in livestock judging; presentation of reasons, showing procedure, identification and names of parts of animals.

AL 316—ELEMENTARY LIVESTOCK MANAGEMENT. 3 credits
Offered 2. Open only to students not majoring in Animal Husbandry and Nutrition. Basic livestock management practices of beef cattle, swine and sheep.

AL 321—ANIMAL FERTILITY. 2 credits
Offered 1. Anatomy and physiology of reproductive organs and glands of farm animals. Effects of environmental, genetic and pathological factors on germ cell production, fertilization and prenatal development.

AL 322—ANIMAL BREEDING. 3 credits
Offered 2. Prerequisites. AL 211, BLY 181, AY 329. Principles of breeding and genetics applied to animals; pedigrees, records, and breed history.

AL 411—BEEF CATTLE SCIENCE. 3 credits
Offered 2. Prerequisites: AL 312. Application of basic scientific principles in the planning and management of all types of beef cattle enterprises.

AL 413—SWINE PRODUCTION. 3 credits
Offered 2. Prerequisite: AL 312. Selection, feeding and management of hogs; forage crops and grazing, disease and parasite control.

AL 414—SHEEP PRODUCTION. 2 credits
Offered 2. Prerequisite: AL 312. Sheep production and management in Florida and the United States, marketing and wool grading.

AL 415—MEATS AND MEAT PRODUCTS. 4 credits
Offered 2. Slaughtering, cutting, curing, and processing meat.

AL 419—HORSE HUSBANDRY. 2 credits
Offered 2. Prerequisite: AL 312. Horse and mule production. General management of horses and their use on the farm and range.

AL 421—SEMINAR. 1 credit
Offered 1. Prerequisite: Senior Classification. Preparation and presentation of papers on an approved subject of major interest.

AL 423—LIVESTOCK AND MEAT EVALUATION. 3 credits
Offered 2. Prerequisite: AL 211. Study of classifying, grading and judging carcasses; grading, juding and evaluation of feeder and slaughter animals.

AL 427—ELEMENTARY NUTRITION. 3 credits
Offered 2. Prerequisite: AL 312 or permission of instructor. An elementary study of carbohydrates, fats, proteins, minerals, and vitamins and their function in the animal body.

AL 428—ADVANCED LIVESTOCK SELECTION AND APPRAISAL. 1 credit
Offered 1. Prerequisites: AL 314 and AL 423. Registration by permission only. Study of methods to develop proficiency in the selection and appraisal of beef cattle, swine, sheep, horses and mules.

AL 429—MEAT SELECTION AND GRADING. 2 credits
Offered 1. Fundamentals in grading and classifying carcasses and cuts of meat from beef, pork and lamb. Includes field trips to packing plants and exercises in practical grading and selection.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

GRADUATE COURSES

AL 603— ANIMAL NUTRITION. 3 credits

AL 604—MEAT TECHNOLOGY. 3 credits

AL 605—EXPERIMENTAL TECHNICS AND ANALYTICAL PROCEDURES IN MEATS RESEARCH. 3 credits

AL 607—PHYSIOLOGY OF REPRODUCTION. 3 credits

AL 608—GENETICS OF ANIMAL IMPROVEMENT. 3 credits

AL 609—PROBLEMS IN ANIMAL HUSBANDRY AND NUTRITION. 1 to 8 credits

AL 610—HORMONES IN REPRODUCTION OF FARM ANIMALS. 3 credits

AL 650—ADVANCED METHODS IN NUTRITION TECHNOLOGY. 3 credits

AL 651—ADVANCED ANIMAL NUTRITION. 3 credits

AL 652—ADVANCED ANIMAL NUTRITION LABORATORY. 2 credits

AL 653—VITAMINS. 3 credits

AL 654—LABORATORY IN VITAMINS. 2 credits

AL 655—MINERAL NUTRITION AND METABOLISM. 3 credits

AL 656—RUMINANT PHYSIOLOGY AND METABOLISM. 2 credits

AL 657—NON-RUMINANT METABOLISM. 2 credits

AL 660—GRADUATE SEMINAR IN ANIMAL HUSBANDRY AND NUTRITION. 1 credit

AL 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

AL 799—DOCTORAL DISSERTATION. 1 to 12 credits

Anthropology

INSTRUCTIONAL STAFF 1960-61

Grigsby, S. E., Acting Head; Goggin, J. M.; Massey, W. C.

An undergraduate departmental major must include APY 201, APY 301, APY 302, APY 306, APY 501, APY 504 and APY 580. All undergraduates desiring a major in anthropology should contact the departmental academic adviser soon after enrollment in the University.

APY 201—GENERAL ANTHROPOLOGY. 3 credits
Offered 1. Fossil man analyzed. A descriptive study of the major racial groups and their physical characteristics. Archeological evidence of man's cultural development. Cultural sketches of four primitive groups.

APY 301—CULTURAL ANTHROPOLOGY. 3 credits
Offered 2. The nature of culture. The content of cultures: language, subsistence, economic structures, social groupings, government, art, mythology, and religion in primitive societies.

APY 302—PHYSICAL ANTHROPOLOGY. 3 credits
Offered 1. Prerequisite: APY 201 or C-6. The evolution of Man and the formation of Races. Relationship with other Primates. Human Genetics. Anthropometry. Racial differences. Distribution and History.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

APY 305—ANCIENT CIVILIZATION OF LATIN AMERICA. 3 credits
Offered 1. Prerequisite: APY 201. The higher Indian civilization of Central and South America with special reference to the Maya, Aztecs, and Incas.

APY 306—PRIMITIVE ARTS AND CRAFTS. 3 credits
Offered 2. Prerequisite: APY 301. An introduction to the material culture of primitive people. A discussion of basic technological processes and methods, their history and spread.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

APY 500—FIELD SESSION IN ARCHEOLOGY. 6 credits
Prerequisite; 6 hours of anthropology, including APY 201. Available for graduate major credit. Excavation of archeological sites, recording of data, laboratory handling and analysis of specimens, and study of the theoretical culture principles which underlie field methods and artifact analysis.

APY—501—PRINCIPLES OF ARCHEOLOGY. 3 credits
Offered 1. Prerequisite; 6 hours of anthropology, including APY 201. Available for graduate major credit. The viewpoint and methods of archeology, especially as applied to New World materials. The archeological survey. Methods and techniques of excavation. Systems of chronological analysis.

APY 502—NORTH AMERICAN ARCHEOLOGY. 3 credits
Prerequisites: APY 201 and APY 501. Available for graduate major credit. The existing archeological materials relating to prehistoric North American cultures. The origins of the North American Indian.

APY 503—CULTURE AND PERSONALITY. 3 credits
Offered 1. Prerequisite: 6 hours of anthropology, including APY 201. Available for graduate major credit. The patterned cultural factors of human behavior. The individual, culture, and society. Social structures and social participation. Personality as viewed anthropologically.

APY 504—SOCIAL ORGANIZATION. 3 credits
Prerequisite; 6 hours of anthropology, including APY 201. Available for graduate major credit. Social groups and structures. Marriage forms, family systems, kinship usages. Property concepts, forms and complexes. Tribal patterns of government and social control.

APY 505—PRIMITIVE ECONOMICS. 2 credits
Prerequisite: APY 201 or APY 301; or ES 201-202. Available for graduate major credit. A study of the economic life of primitive peoples. Impact of Western economic culture upon under-developed areas. Cultural perspective on economic theory.

APY 530—INDIVIDUAL WORK. 3 credits
Offered 1, 2. Prerequisites: 12 hours of anthropology, including APY 201. Available for graduate major credit.

APY 538—THE NORTH AMERICAN INDIAN. 3 credits
Offered 1. Prerequisites: APY 201 and APY 301. Available for graduate major credit. The peopling of North America and Early Man in the New World. The culture areas of North America. Unique characteristics, institutions and problems of the peoples.

APY 540—PEOPLES AND CULTURES OF THE OLD WORLD. 3 credits
Offered 1. Available for graduate major credit, Prerequisite: APY 301. Major cultural developments in Europe, Near East, Far East and India. The cultures and present status of less advanced groups in Africa, Asia, India, Indonesia, Oceania and Australia are brought into context.

APY 580—ANTHROPOLOGICAL THEORY. 3 credits
Offered. 2. Available for graduate major credit. Prerequisite: 6 hours of Anthropology, including APY 201. The history and development of anthropological theory, with emphasis on current problems and methods in anthropological research. Directed reading of major theoretical publications.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

Architecture

INSTRUCTIONAL STAFF 1960-61

Lendrum, J. T., Head; Arnett, W. T.; Bannister, T. C.; Campbell, A. L.; Clark, J. L.; Davis, R. S.; Edwards, H. C.; Graham, R. W.; Grand, J.L.R.; Hamacher, H. B.; Hodges, V. S.; Johnson, M. H.; Kinzey, B. Y.; Koruturk, S. S.; Larrick, T.; Merritt, H. C.; Raymond, W.; Reeves, F. B.; Sabatella, J. J.; Stewart, W. A.; Tillman, W. J.; Torraca, P. M.; Voichysonk, B.; Vollendorf, D. B.; Young, C.K.M.

AE 111—GRAPHIC TECHNIQUE, I. 2 credits
Offered 1, 2, 3. Exercises to develop the student's skills in perception and drawing.

AE 112—GRAPHIC TECHNIQUES, II. 2 credits
Offered 1, 2, 3. Exercises in freehand and instrumental drawing.

AE 121—THE BUILDING ARTS, I. 2 credits
Offered 1, 2, 3. A survey of the building arts with emphasis on the social factors that govern them.

AE 122—THE BUILDING ARTS, II. 3 credits
Offered 1, 2, 3. A survey of the building arts with emphasis on the physical and psychological factors that influence them.

AE 200—ARCHITECTURE IN THE COMMUNITY. 3 credits
A general course presenting a study of architecture as a civilizing influence on the physical environment of mankind.

AE 209—HOUSING FOR FAMILIES. 3 credits
Offered 2. Problems involved in securing adequate housing for the family. Consideration of physical, social, economic, and other factors involved.

AE 211—VISUAL EXPRESSION, I. 2 credits
Offered 1, 2, 3. Prerequisite: AE 112. The representation of spatial relationships using various appropriate media and techniques with emphasis on the development of interpretative skills.

AE 212—VISUAL EXPRESSION, II. 2 credits
Offered 1, 2, 3. Prerequisite: AE 211. Continuation of AE 211 with advanced analysis of media, techniques and composition.

AE 231—ELEMENTARY ARCHITECTURAL DESIGN, I. 3 credits
Offered 1, 2, 3. Prerequisite: AE 112. Corequisite: AE 122. A study of the basic elements and principles of two- and three-dimensional design, in conjunction with basic architectural problems.

AE 232—ELEMENTARY ARCHITECTURAL DESIGN, II. 3 credits
Offered 1, 2, 3. Prerequisite: AE 231. Continuation of Elementary Architectural Design, AE 231.

AE 241—MATERIALS AND METHODS OF CONSTRUCTION, I. 2 credits
Offered 1, 2, 3. Types and general properties of building materials, elements of building construction: types of construction systems, fire-loss prevention and building codes.

AE 242—MATERIALS AND METHODS OF CONSTRUCTION, II. 2 credits
Offered 1, 2, 3. Prerequisite: AE 241. Types, properties and design of the construction frames of buildings.

AE—311—PRESENTATION METHODS, I. 2 credits
Offered 1, 2. Prerequisite: AE 212. Application of various media to develop rapid, efficient and greater skill in presenting architectural problems.

AE 312—PRESENTATION METHODS, II. 2 credits
Offered 1, 2. Prerequisite: AE 311. Continuation of Presentation Methods I.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

AE 321—SPECIAL STUDIES IN ARCHITECTURE, I. 3 credits
Offered 1, 2, 3. Prerequisite: Completion of Lower Division program in Architecture, or equivalent, and recommendation of Advisor. Special studies in Architecture adjusted to individual needs of transfer and special students.

AE 322—SPECIAL STUDIES IN ARCHITECTURE, II. 3 credits
Offered 1, 2, 3. Prerequisite: AE 321. Continuation of Special Studies in Architecture, I, AE 321.

AE 323—SPECIAL STUDIES IN ARCHITECTURE, III. 3 credits
Offered 1, 2, 3. Prerequisite: AE 322. Continuation of Special Studies in Architecture, II, AE 322.

AE 331—INTERMEDIATE ARCHITECTURAL DESIGN, I. 3 credits
Offered 1, 2. Prerequisite: AE 232. Problem organization, devolpment and solution with comprehensive analysis of site, climate, and society.

AE 332—INTERMEDIATE ARCHITECTURAL DESIGN, II. 3 credits
Offered 1, 2. Prerequisite: AE 331. Continuation of Intermediate Architectural Design I, AE 331.

AE 341—MATERIALS AND METHODS OF CONSTRUCTION, III. 3 credits
Offered 1, 2. Prerequisite: AE 242. Types, properties and design of the construction materials of buildings.

AE 342—MATERIALS AND METHODS OF CONSTRUCTION, IV. 3 credits
Offered 1, 2. Prerequisite: AE 341. Types, properties and design of the construction assemblies of buildings.

AE 351—ARCHITECTURAL STRUCTURES, I. 3 credits
Offered 1, 2. Prerequisites: MS 106 and PS 201. The study of types of loads exerted on buildings, their transmission through the building frames, and the forces produced on the framing members.

AE 352—ARCHITECTURAL STRUCTURES, II. 3 credits
Offered 1, 2. Prerequisite: AE 351. The strutctural properties of the materials used in architecture; application of the principles involved in the design of the structural members of buildings.

AE 362—MECHANICAL EQUIPMENT, I. 3 credits
Offerered 1, 2. Prerequisite: PS 202. Plumbing, electrical systems, acoustics and vertical transportation.

AE 371—ANCIENT ARCHITECTURE. 3 credits
Offered 1, 2. A critical study of the development of architecture in the Near East and Europe from prehistoric times to the fourth century, A.D., in relation to its environmental and cultural setting.

AE 372—MEDIEVAL ARCHITECTURE. 3 credits
Offered 1, 2. A critical study of the development of European architecture from the fourth to fifteenth centuries in relation to its environmental and cultural setting.

AE 381—SURVEY AND SITE ANALYSIS. 3 credits
Offered 1, 2. Prerequisite: MS 106. Use of surveying instruments, contour location, topographical analysis of a site, and its influence on the architectural design.

AE 431—ADVANCED ARCHITECTURAL DESIGN, I. 5 credits
Offered 1, 2. Prerequisite: AE 332. The design of buildings with complex technical requirements. A further development of the method of study of architectural projects with increasing emphasis on economic and social problems and complex technical requirements.

AE 432—ADVANCED ARCHITECTURAL DESIGN, II. 5 credits
Offered 1, 2. Prerequisite AE 431. Continuation of Advanced Architectural Design I, AE 431, and Site Planning.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

AE 441—WORKING DRAWINGS. 3 credits
Offered 1, 2. Prerequisite: AE 342. Preparation of Architectural Working Drawings in accordance with the best current practices of the Architectural Profession.

AE 442—SPECIFICATIONS AND ESTIMATING. 3 credits
Offered 1, 2. Prerequisite: AE 441. Requirements, organization, arrangement, and methods of writing specifications. Types of estimates, construction costs, and cost records.

AE 451—ARCHITECTURAL STRUCTURES, III. 3 credits
Offered 1, 2. Prerequisite: AE 352. Design of structural for buildings in wood and steel; connections in wood and steel; use of wood and steel handbooks and tables.

AE 452—ARCHITECTURAL STRUCTURES, IV. 3 credits
Offered 1, 2. Prerequisite: AE 451. Analysis and design of building trusses in wood and steel. Introduction to continuous building frames by moment distribution.

AE 461—MECHANICAL EQUIPMENT, II. 3 credits
Offered 1, 2. Prerequisite: PS 202. Heating, ventilating and air conditioning systems and their design.

AE 471—HISTORY OF RENAISSANCE AND BAROQUE ARCHITECTURE. 3 credits
Offered 1, 2. A critical study of the architectural development of Western Europe and the Americas from the early fifteenth through the mid-eighteenth centuries, and related areas.

AE 472—MODERN ARCHITECTURE. 3 credits
Offered 1, 2. A critical study of architecture since the mid-18th century, primarily in the Western World.

AE 482—COMMUNITY PLANNING. 3 credits
Offered 1, 2. History, theories, philosophies or regional and community planning. The planning process, standards and requirements. Case studies.

AE 522—PROFESSIONAL SEMINAR. 2 credits
Offered 1, 2. Prerequisites: Senior standing or permission of the Advisor. An examination of architecture and its relationship within the building industry.

AE 531—ADVANCED ARCHITECTURAL DESIGN, III. 8 credits
Offered 1, 2. Prerequisite: AE 432. Advanced problems stressing importance of collaboration in solving complex architectural problems.

AE 532—ADVANCED ARCHITECTURAL DESIGN, IV. 8 credits
Offered 1, 2. Prerequisite: AE 531. A terminal project involving a comprehensive problem in architecture applying all the principles of previous studies.

AE 541—PROFESSIONAL ADMINISTRATION. 3 credits
Offered 1, 2. Prerequisite: Senior standing. The profession of architecture, legal problems, client relations, office procedures, project procedures, job administration, supervision, and summary of procedure.

AE 551—ARCHITECTURAL STRUCTURES, V. 3 credits
Offered 1, 2. Prerequisite: AE 452. Properties of reinforces concrete. Design of reinforced concrete beams, slabs, columns and foundations for buildings.

AE 552—APPLIED ARCHITECTURAL STRUCTURES. 3 credits
Offered 1, 2. Prerequisite AE 551. Application of rigid frames, arches, thin shell construction, prestressed concrete, lift slabs, laminated timber and plastic design to architectural structures.

AE 561—ARCHITECTURAL ACOUSTICS. 3 credits
Offered 1, 2. Prerequisite: AE 461 and senior standing. A comprehensive study of the nature of acoustical problems of buildings, how they are analyzed and solved.

AE 571—PROBLEMS IN ARCHITECTURAL HISTORY. 3 credits
Offered 1, 2. Prerequisite: AE 472 and senior standing. Individual topics of criticism or reconstruction of selected historical buildings.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

GRADUATE COURSES

AE 601—ARCHITECTURAL DESIGN. 3 or 6 credits

AE 602—ARCHITECTURAL DESIGN. 3 or 6 credits

AE 603—ARCHITECTURAL RESEARCH. 3 or 6 credits

AE 604—ARCHITECTURAL RESEARCH. 3 or 6 credits

AE 605—STRUCTURAL DESIGN OF BUILDINGS. 3 or 6 credits

AE 606—STRUCTURAL DESIGN OF BUILDINGS. 3 or 6 credits

AE 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

Art

INSTRUCTIONAL STAFF 1960-61

Spencer, J. R., Acting Head; Adams, Clinton, (on leave); Borgia, A. P.; Coke, F. V.; Covington, H. W.; Craven, R. C.; Grissom, E. E.; Holbrook, H. H.; Kerslake, K. A.; McIntosh, P. R.; Naylor, J. G.; Neidhardt, C. R.; Purser, S. R.; Uelsmann, J. N.; Ward, P. A.; Williams, H. D.

ART 101—BEGINNING DESIGN. 2 credits
Offered 1, 2, 3. Fundamental principles of visual organization. Emphasis upon two-dimensional design in black and white. Students who intend to major in art should schedule ART 101 and ART 103 concurrently.

ART 102—BEGINNING DESIGN. 2 credits
Offered 1, 2, 3. Prerequisite: ART 101. Continuation of ART 101. Emphasis upon design in three-dimensions. Projects in construction, modeling and carving in a variety of materials.

ART 103—BEGINNING DRAWING AND PAINTING. 2 credits
Offered 1, 2, 3. Exploration of the drawing media. Drawing as a means of formal organization. Study of still-life, figure and landscape.

ART 104—BEGINNING DRAWING AND PAINTING. 2 credits
Offered 1, 2. Prerequisite: ART 103. Continuation of ART 103. Emphasis upon spatial description through perspective and other means.

ART 205—INTERMEDIATE DESIGN. 2 credits
Offered 1, 2. Prerequisite: ART 101. Continuation of ART 101-102. Emphasis upon color theory and upon the use of color in design.

ART 206—INTERMEDIATE DRAWING AND PAINTING. 2 credits
Offered 1, 2. Prerequisite: ART 104. Continuation of ART 103-104. Pictorial form. Relationship of subject matter to pictorial and content. Painting in gouache and casein.

ART 207—INTRODUCTION TO THE PRINCIPLES AND HISTORY OF ART. 3 credits
Offered 1. Principles of art. Relation of styles to cultural context. Survey of ancient and medieval art and architecture.

ART 208—INTRODUCTION TO THE PRINCIPLES AND HISTORY OF ART. 3 credits
Offered 2. Prerequisite: ART 207 or consent of instructor. Continuation of ART 207. Survey of art and architecture from the Renaissance to the present day. The visual arts in contemporary society.

ART 210—STUDIO FOR NON-MAJORS. 2 credits
Offered 1, 2. No prerequisites. An introductory studio course for the non-professional student who does not intend to major in art. Emphasis upon creative expression rather than technical proficiency. Not available for credit toward a major in art.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

ART 260—LETTERING. 3 credits
Offered 1, 2. Principles of design and use of letter forms. Study of historic designs and styles. Development of skills of execution.

ART 270—INTRODUCTION TO FASHION DESIGN. 3 credits
Offered 1. Fashion fundamentals. Basic principles of fashion design. Introduction to problems of clothing selection and construction.

ART 280—BEGINNING CERAMICS. 3 credits
Offered 1, 2. Prerequisite: ART 101 or consent of instructor. Basic concepts of ceramic design. Experience in processes of forming, decorating, glazing and firing pottery.

ART 303—METHODS AND MATERIALS OF THE ARTIST. 3 credits
Offered 2. Prerequisite: ART 206 or consent of instructor. The physical properties of the artist's materials and the history of their use. Traditional and experimental materials and techniques.

ART 309—CRITICISM OF ART. 3 credits
Offered 1. Prerequisite: ART 207-208 or consent of instructor. Review of principal theories in the history of criticism. Analysis and evaluation of works of art. Problems in the criticism of contemporary art.

ART 314—PRIMITIVE ART AND ITS RELATIONSHIP TO MODERN ART. 3 credits
Not offered 1961-62. Prerequisite: ART 207-208 or consent of instructor. Style and form in primitive art. Primitivism in modern art. The contributions of primitive art to modern art and design.

ART 316—GREEK AND ROMAN ART. 3 credits
Offered 1. No prerequisite. The art and architecture of ancient Crete and Rome.

ART 318—MEDIEVAL ART. 3 credits
Offered 2. No prerequisite. The art and architecture of Europe and the Mediterranean region from approximately the fourth to the fourteenth centuries A.D.

ART 323—ORIENTAL ART. 3 credits
Not offered 1961-62. No prerequisite. A survey of the visual arts in Oriental civilizations.

ART 324—AMERICAN ART. 3 credits
Offered 2. A survey of painting and sculpture in the United States from the middle of the 18th century through 1913.

ART 325—LATIN-AMERICAN ART. 3 credits
Not offered 1961-62. No prerequisite. A survey of pre-Columbian, colonial and contemporary art and architecture in Mexico, Central America and South America.

ART 341—PHOTOGRAPHY, 3 credits
Offered 1, 2. Prerequisite: ART 101 or consent of instructor. Fundamentals of photography. Operation of the camera. Developing, printing, enlarging. Principles of design in photography.

ART 350—INTERMEDIATE DRAWING. 2 credits
Offered 1, 2. Prerequisite: ART 104. The function of drawing in art. Pictorial concepts motivated by study of the human figure. Problems of draftmanship and form.

ART 351—PAINTING, I. 3 credits
Offered 1. Prerequisite: ART 206. The oil medium. Technical and creative problems. Continued emphasis upon pictorial organization.

ART 352—PAINTING, II. 3 credits
Offered 2. Prerequisite: ART 206. Work in one or more of the painting media: oil, watercolor, casein, lacquer, tempera, etc.

ART 355—PRINTMAKING, I. 3 credits
Offered 1, 2. Prerequisite: ART 206 or consent of instructor. Basic procedures and processes in printmaking. Formal and expressive characteristics of the print media.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

ART 356—PRINTMAKING, II. 3 credits
Offered 1, 2. Prerequisite: ART 355. A continuation of ART 355.

ART 357—SCULPTURE, I. 3 credits
Offered 1, 2. Prerequisite: ART 102. Problems in sculptural form and composition. Work in plaster, clay, metal and other materials.

ART 358—SCULPTURE, II. 3 credits
Offered 1, 2. Prerequisite: ART 357. Continuation of ART 357. Emphasis upon sculpture in metal. Introduction to carving.

ART 360—LAYOUT. 3 credits
Prerequisite: ART 101. Recommended, ART 260. Fundamental principles of visual communication and of design in printed material.

ART 362—ADVERTISING DESIGN. 3 credits
Offered 2. Prerequisite: ART 260. Principles of advertising design with emphasis upon development of visual ideas and necessary skills and techniques for their presentation.

ART 370—FASHION DESIGN AND CONSTRUCTION. 3 credits
Offered 1, 2. Principles of pattern design. Construction of clothing. Emphasis upon development of design, line, structure and proportion.

ART 375—TEXTILES. 3 credits
Offered 1. No prerequisite. Study of textile fibers, fabrics, finishes and methods of textile production. Equivalent to former course ART 335.

ART 379—HISTORY OF COSTUME. 3 credits
Offered 2. No prerequisite. Survey of the evolution of styles of dress from ancient Egypt to the present day.

ART 382—INTERMEDIATE CERAMICS. 3 credits
Offered 1, 2. Prerequisite: ART 280. Continuation of ART 280. Emphasis upon use of the potter's wheel and experimentation with ceramic glazes.

ART 383—JEWELRY AND METALWORK, I. 3 credits
Offered 1, 2. Prerequisite: ART 102 or consent of instructor. Basic processes in jewelry and metalwork. Work in silver, copper, and other materials. Enameling on metal.

ART 384—JEWELRY AND METALWORKS, II. 3 credits
Offered 1, 2. Prerequisite: ART 383. Continuation of ART 383. Emphasis upon craftsmanship. Advanced techniques in metalwork and enameling.

ART 408—SENIOR SEMINAR. 2 credits
Offered 1. Prerequisite: Senior standing and a major in art. Study and discussion of selected topics of current interest and significance in the visual arts. A five day field trip to the Ringling Museum of Art will normally be required in the spring semester.

ART 421—EARLY RENAISSANCE ART IN ITALY. 3 credits
Offered 1. Prerequisite: ART 207-208 or consent of instructor. Italian art and architecture from the beginning of the Renaissance to the end of the fifteenth century. Emphasis upon painting and sculpture.

ART 422—LATER RENAISSANCE ART IN ITALY. 3 credits
Offered 2. Prerequisite: ART 421 or consent of instructor. Continuation of ART 421. Italian art and architecture in the sixteenth century. Emphasis upon painting and sculpture.

ART 423—RENAISSANCE ART IN NORTHERN EUROPE. 3 credits
Offered 2. Prerequisite: ART 207-208 or consent of instructor. Sources and development of 15th and 16th century European art outside Italy. Emphasis upon painting and sculpture.

ART 425—BAROQUE ART IN EUROPE. 3 credits
Offered 2. Prerequisite: ART 207-208 or consent of instructor. European art and architecture in the seventeenth and eighteenth centuries. Emphasis upon painting and sculpture.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

ART 427—NINETEENTH CENTURY ART. 3 credits
Offered 1. Prerequisite: ART 207-208 or consent of instructor. European art and architecture in the nineteenth century. Emphasis upon painting and sculpture. Neo-Classicism, Romanticism, Realism, Impressionism and Post-Impressionism.

ART 428—TWENTIETH CENTURY ART. 3 credits
Offered 3. Prerequisite: ART 207-208 or consent of instructor. European and American art since 1900. Expressionism, Cubism, Abstract Art and related movements.

ART 441—ADVANCED PHOTOGRAPHY. 3 credits
Offered 1, 2. Prerequisite: ART 341. Use of the camera as a medium of individual creative expression. Experimental projects in black and white and color photography. This course may be repeated for credit.

ART 451—ADVANCED DRAWING. 2 credits
Offered 1, 2. Prerequisite: ART 350. Emphasis upon the drawing as a terminal creative expression rather than as a preliminary study. This course may be repeated for credit.

ART 453—ADVANCED PAINTING. 6 credits
Offered 1, 2. Prerequisite: ART 351 or 352. Emphasis upon individual creative expression. This course may be repeated for credit.

ART 455—ADVANCED PRINTMAKING. 6 credits
Offered 1, 2. Prerequisite: ART 356. Advanced problems in creative printmaking. This course may be repeated for credit.

ART 457—ADVANCED SCULPTURE. 6 credits
Offered 1, 2. Prerequisite: ART 358. Advanced problems in sculptural form with further development of processes and techniques. This course may be repeated for credit.

ART 460—ADVANCED ADVERTISING DESIGN. 3 credits
Offered 1. Prerequisite: ART 362. Continuation of ART 362. Planning of advertising campaigns. Emphasis upon concise visual thinking and upon speed and quality of execution.

ART 467—PROJECTS IN ADVERTISING DESIGN. 6 credits
Offered 1. Prerequisite: ART 362. Corequisite: ART 460. Projects in design and execution of page advertisements and direct-mail brochures. Poster design and package design.

ART 468—PROJECTS IN ADVERTISING DESIGN. 9 credits
Offered 2. Prerequisite: ART 467. Design and execution of comprehensive advertising campaigns.

ART 479—PROJECTS IN FASHION DESIGN. 3 credits
Offered 1, 2. Prerequisite: ART 270 or 370. Advanced projects in fashion design.

ART 481—ADVANCED CERAMICS. 6 credits
Offered 1, 2. Prerequisite: ART 382. Contemporary ceramic design and execution. Advanced technical and creative problems. This course may be repeated for credit.

ART 482—ADVANCED JEWELRY AND METALWORK. 6 credits
Offered 1, 2. Prerequisite: ART 384. Advanced studio work in jewelry, metalwork and enameling with further development of processes and techniques. This course may be repeated for credit.

ART 490—HONORS SEMINAR IN ART. 3 credits
Offered 2. Prerequisite: ART 408 or equivalent, senior standing and a major in art. Intensive study by the seminar method of a limited topic in the field of art.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

ART 500—METHODS OF RESEARCH AND BIBLIOGRAPHY. 2 credits
Offered 1. Prerequisite: ART 309 or its equivalent.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

ART 551—INDIVIDUAL WORK: STUDIO. 3 or 6 credits
Offered 1, 2, 3. Prerequisite: a major in art and permission of the department head. This course may be repeated for credit.

GRADUATE COURSES

ART 611—SEMINAR: PROBLEMS IN RENAISSANCE AND BAROQUE ART. 3 credits

ART 621—SEMINAR: PROBLEMS IN 19TH AND 20TH CENTURY ART. 3 credits

ART 650—ADVANCED DRAWING. 2 credits

ART 651—ADVANCED PROJECTS: STUDIO. 3, 6, or 9 credits

ART 655—RESEARCH IN THE METHODS AND MATERIALS OF THE ARTIST. 3 or 6 credits

ART 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

Arts and Sciences - General and Cross-Departmental Courses

ASC 485—DEPARTMENTAL MAJOR HONORS. 3 credits
Offered 1, 2. Prerequisite: Status as departamental major and permission of the head of the major department. May be repeated once for additional credit.

ASC 487—SENIOR SEMINAR: HUMANITIES AND SOCIAL SCIENCES. 3 credits
Offered 1. Required for all candidates for any baccalaureate degree *with High Honors* in the College of Arts and Sciences. Prerequisite: Permission of the College. Qualifications for applying are described under the College High Honors Program in the Arts and Sciences section of this Catalog. The evaluation of human achievement in the humanities and social sciences.

ASC 488—SENIOR SEMINAR: BIOLOGICAL AND PHYSICAL SCIENCES. 3 credits
Offered 2. Required for all candidates for any baccalaureate degree *with High Honors* in the College of Arts and Sciences. Prerequisite: Permission of the College. Qualifications for applying are described under the College High Honors Program in the Arts and Sciences section of this Catalog. The evaluation of human achievement in the biological and physical sciences.

GRADUATE COURSES

ASC 641—INTERNSHIP IN COLLEGE TEACHING. 3 credits

ASC 642—INTERNSHIP IN COLLEGE TEACHING. 3 credits

Astronomy

INSTRUCTIONAL STAFF 1960-61

Maxfield, J. E., Head; Awtrey, R. A.; Cowan, R. W.; Morse, W. P.

ATY 141—DESCRIPTIVE ASTRONOMY. 3 credits
Offered 1, 2, 3. Not open to students who have had any other course in astronomy. An elementary survey of the astronomical universe. Primarily intended as an elective for those not majoring in a physical science or mathematics.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

ATY 305—CELESTIAL NAVIGATION. 3 credits

Offered 1. Prerequisite; MS 105 or its equivalent. Determination of position at sea and in air, guidance of marine vessels and aircraft. Topics studied include charts, the compass, dead reckoning, piloting, nautical astronomy, navigational instruments, the navigator's work at sea.

ATY 306—CELESTIAL NAVIGATION. 3 credits

Offered 2. Prerequisite: ATY 305. The second half of the course ATY 305-306.

ATY 316—GENERAL ASTRONOMY. 3 credits

Offered 1. Prerequisite: MS 105 or its equivalent. Survey of the solar system. The earth, sun, moon, planets, comets, asteroids, and meteors. Recommended for majors in a physical science or mathematics; or those who have had some previous work or experience in astronomy.

ATY 317—ADVANCED GENERAL ASTRONOMY. 3 credits

Offered 2. Prerequisite: ATY 316. The stellar system. Distances, masses, luminosities of the stars. Eclipsing and spectroscopic binary stars. Interstellar matter and the galaxies. An introduction to astrophysics.

Bacteriology

INSTRUCTIONAL STAFF 1960-61

Tyler, M. E., Head; Carroll, W. R.; Herzberg, M.; Jefferies, M. B.; Pratt, D. B.; Schneider, N.; Silver, W. S.; Smith, P. H.

Students desiring a major in bacteriology, either in Agriculture or Arts and Sciences, should consult the departmental advisor as early as possible. Suggested curricula will serve as guides (see programs of study, Agriculture, lower division; and Bacteriology, Agriculture, upper division; also, B. S. in Biology, College of Arts and Sciences).

BCY 300—BACTERIA IN EVERYDAY LIFE. 3 credits

Offered 1, 2, 3. Prerequisite: C-61 or equivalent. Microorganisms in relation to evolution and higher organisms; their functions in chemical transformations, food, disease, and sanitation. Terminal course, not acceptable for admission to advanced bacteriology courses.

BCY 305—BASIC INTRODUCTORY BACTERIOLOGY. 3 credits

Offered 1, 2. Prerequisites: 6 hours of biology, 8 hours of chemistry, 3 hours each of mathematics and physics; organic chemistry recommended. Corequisite: BCY 306 or BCY 307. Fundamental relationships among the biological, physical, and chemical activities of bacteria, rickettsiae, and viruses. Prerequisite to all advanced bacteriology courses.

BCY 306—BASIC BACTERIOLOGY LABORATORY. 2 credits

Offered 1. Corequisite: BCY 305. Experience in observing and characterizing microorganisms, especially through primary isolation and practice in fundamental techniques. Required for all bacteriology majors.

BCY 307—INTRODUCTORY BACTERIOLOGY LABORATORY. 1 credit.

Offered 1, 2. Corequisite: BCY 305. Morphological, physiological, and cultural study of typical microorganisms. Introduction to elementary techniques.

BCY 410—APPLIED MICROBIOLOGY. 4 credits

Offered 1. Prerequisite: 4 hours of introductory bacteriology. Discussion and study of the principal microorganisms in and their relations to, the food and dairy industries, and water and sewage treatment.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

BCY 509—BACTERIAL PATHOGENS AND BASIC IMMUNOLOGY. 6 credits
Offered 2. Prerequisites: BCY 305, BCY 306, or equivalent. Available for graduate major credit. The characteristics of pathogens of man and animals; host-parasite relationships; principles of immunology. Laboratory studies of isolation and identification of pathogenic bacteria and basic techniques of serology.

BCY 513—MICROBIAL PHYSIOLOGY. 4 credits
Offered 1. Prerequisite: BCY 305, BCY 306 or equivalent. Available for graduate major credit. Growth, nutrition, energy metabolism, biosynthesis, and biological adaptation. Selected exercises stressing a quantitative and experimental approach to metabolic phenomena.

GRADUATE COURSES

BCY 646—TOPICS IN GENETICS. 1 to 3 credits. Maximum 9 credits
(Identical with AY 646, BLY 646, BTY 646.)

BCY 650—PUBLIC HEALTH MICROBIOLOGY. 1 to 6 credits. Maximum 18 credits (Identical with MED 650.)

BCY 651—BACTERIAL METABOLISM. 6 credits (Identical with MED 651.)

BCY 652—VIROLOGY. 4 credits. (Identical with MED 652.)

BCY 653—MECHANISMS OF INFECTION AND RESISTANCE. 6 credits
(Identical with MED 653.)

BCY 654—RESEARCH METHODS IN MICROBIOLOGY. 2 credits. (Identical with MED 654.)

BCY 655—SEMINAR. 1 credit. (Identical with MED 655.)

BCY 656—PARASITIC DISEASES OF MAN AND ANIMALS. 4 credits. (Identical with MED 656.)

BCY 657—SPECIAL TOPICS IN MICROBIOLOGY I. 2 credits. Maximum 4 credits. (Identical with MED 657.)

BCY 658—SPECIAL TOPICS IN MICROBIOLOGY II. 2 credits. Maximum 4 credits. (Identical with MED 658.)

BCY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits.

BCY 799—DOCTORAL DISSERTATION. 1 to 12 credits.

Biochemistry

INSTRUCTIONAL STAFF 1960-61

Putnam, F. W., Head; Crampton, C. F.; Fried, M.; Graves, J. L.; Koch, A. L.; Olson, J. A.

The undergraduate courses BCH 402 and BCH 404 are available to majors in chemistry and in the biological sciences but are not advised for premedical students or those planning graduate work in biochemistry. By special permission MED 511 is open to selected premedical students who have finished other required work. For those planning graduate work in the Department, the major should be in chemistry or in biological sciences and should include as many of the following as possible: quantitative, organic, and physical chemistry, calculus, physics, genetics, physiology, bacteriology, and German.

BCH 402—BIOCHEMISTRY. 3 credits
Offered 2. Prerequisite: CY 302. Lectures and assigned readings. The biochemistry of the substances and reactions common to living organisms.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

BCH 404—BIOCHEMISTRY LABORATORY. 1 credit
Offered 2. Prerequisite: CY 302. Corequisite: BCH 402. Introductory laboratory experiments in biochemistry.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

MED 511—BIOCHEMISTRY. 8 credits
Offered 1. Prerequisite: CY 302. Lectures and laboratory. The chemistry, metabolism, and regulation of body constituents. Introduction to proteins, carbohydrates, lipids, enzymes, problems of energy transfer, intermediary metabolism of cell constituents, and endocrine action.

GRADUATE COURSES

BCH 601—PRINCIPLES OF BIOCHEMISTRY. 4 credits

BCH 603—LABORATORY METHODS OF BIOCHEMISTRY. 3 credits

BCH 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

BCH 799—DOCTORAL DISSERTATION. 1 to 12 credits

MED 612—PHYSICAL BIOCHEMISTRY. 3 credits

MED 613—CHEMICAL BIOLOGY. 3 credits

MED 614—ADVANCED INTERMEDIARY METABOLISM. 3 credits

MED 615—RESEARCH METHODS IN BIOCHEMISTRY. 2 to 4 credits

MED 616—BIOCHEMISTRY SEMINAR. 1 credit

MED 617—SPECIAL TOPICS IN BIOCHEMISTRY. 1 credit

Biology

INSTRUCTIONAL STAFF 1960-61

Wallace, H. K., Head; Auffenberg, W. (on leave); Austin, O. L. Jr.; Berner, L.; Bovee, E. C.; Brodkorb, P.; Brookbank, J. W.; Carr, A. F.; Conger, A. D.; DeWitt, R. M.; Dickinson, J. C. Jr.; DuPraw, E. J. (on leave); Fouquette, M. J. Jr.; Goin, C. J.; Gregg, J. H.; Griffith, M. M.; Grobmen, A. B. (on leave); Hunter, G. W. III; Hussey, R. F.; Jones, E. R.; Kilby, J. D.; Laessle, A. M.; Layne, J. N.; Leavitt, B. B.; Maturo, F. J. S. Jr.; Mitchell, R. D.; Pierce, E. L.; Ray, C. E.; Redmond, J. R.; Riemer, W. J.; Rosen, D. E.; Wallbrunn, H. M.; Westfall, M. J.

Undergraduate students planning to major in this department should take, during the freshman year, an introductory sequence in biology and introductory college chemistry or mathematics. They should also consult with the Departmental Advisor at the earliest opportunity to plan a program appropriate to the needs of the individual. For those planning to do graduate work in the Department, the major should include as many of the following as possible: comparative anatomy, embryology, invertebrate and vertebrate biology, physiology, genetics and ecology. The introductory sequence for this Department consists of BTY 180 or 217 and BLY 181 or 217.

Those students who are planning to major in this department, and who are qualified to do so, are advised to take BLY 217 as the introductory course.

Courses marked (**) are "service courses" offered by the Department of Biology at the request of other departments or colleges. These courses do not give credit toward a major in zoology in the College of Arts and Sciences.

BTY 180 or 217 and BLY 181 or 217 are prerequisite for all courses in the department unless otherwise indicated.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

BLY 181—GENERAL ZOOLOGY. 4 credits
Offered 1, 2. An introductory course dealing with protoplasm, animal cells, the structure, functioning, embryology, and evolutionary relationships of representatives of the major animal phyla.

BLY 202—EVOLUTION TODAY. 2 credits
Offered 2. Prerequisite: C-6. Evolutionary theories and their historical development. Available for students in the social sciences and the humanities.

BLY 217—PRINCIPLES OF ANIMAL BIOLOGY. 4 credits
Offered 1, 2. Prerequisite: 1 year of High School Biology and a total score on the twelfth grade Placement Tests of 450 or above. Corequisite. CY 217. An introduction to the principles of Animal Biology with emphasis on modern concepts of function at the cellular level. Designed to enable qualified students with sound training in high school science to gain earlier entrance into upper division biology courses.

**BLY 300—COMMON ANIMALS AND PLANTS OF FLORIDA. 3 credits
Offered 1. Prerequisite: C-6. Designed to provide a recognition of and an acquaintance with some of the more common animals and plants in Florida. Individual work in the field and the making of a personal reference collection of plant and animals is encouraged.

**BLY 301—BIOLOGICAL LABORATORY TECHNIQUE FOR TEACHERS. 3 credits
Designed to provide prospective instructors at the high school level with a sound background in biology and information regarding methods of preparation of material and sources of supply for the high school course.

**BLY 302—THE LIFE OF THE INLAND WATERS OF FLORIDA. 3 credits
Prerequisite: C-6. A companion course to BLY 300 but concerned with the common plants and animal life of our streams, pools, ponds, lakes and marshes.

**BLY 303—BIRDS OF FLORIDA. 3 credits
Prerequisite: C6. Particular attention is given to the recognition and identification of the local birds.

BLY 305—GENERAL ECOLOGY. 3 credits
Offered 1. An introduction to the study of ecological factors and organization in terrestrial, freshwater and marine environment. Field work is an examination of representative biotic communities of the Gainesville area.

BLY 307—BIOLOGY OF VERTEBRATES. 4 credits
Offered 2. An introduction to the structure, evolutionary relationship, taxonomy, and natural history of the vertebrate animals.

BLY 308—INVERTEBRATE ZOOLOGY. 4 credits
Offered 1. Structure, function, and evolutionary relationship of a selected series of animals without backbones.

*BLY 309—COMPARATIVE VERTEBRATE ANATOMY. 4 credits
Offered 1, 2. Lectures on the structure of the various types of chordate animals are accompanied by laboratory work dealing chiefly with amphioxus, shark, necturus and cat.

*BLY 310—EMBRYOLOGY. 4 credits
Offered 1, 2. Lectures dealing with the analysis of development of selected invertebrates and vertebrates, accompanied by laboratory work dealing with the sea urchin, frog, chick, and pig.

BLY 322—READINGS IN THE BIOLOGICAL SCIENCES. 3 credits
Offered 1. Prerequisite: C-6. Readings in selected contributions of biology to human thought and welfare and their application, both in the sciences and to everyday life. Available for the students in the social sciences and the humanities.

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*BLY 309 and 310 are not sequential. Advisers are requested to assist in keeping enrollments in these courses approximately equal each semester by assigning half of their advisees who plan to take both courses to BLY 309 and the other half to BLY 310.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

BLY 323—NATURAL HISTORY OF ANIMALS. 3 credits
Offered 2. Prerequisite: C-61. Attention is given to the fundamental activities and behavior of selected groups of invertebrate and vertebrate animals. Modes of locomotion, methods of food getting, social relationships, reproduction, sensory phenomena, environmental orientation, biology of population, and dynamics of distribution are among the topics considered.

BLY 325—GENETICS AND SPECIATION. 4 credits
Offered 2. An introduction to the data and methods of genetics with special reference to their bearing on the problems of speciation and organic evolution.

BLY 400—BIOLOGY FOR TEACHERS. 6 credits
Offered 3. Prerequisite: one year of college biology with laboratory. Designed to provide secondary school teachers with a background of modern biology and a knowledge of the basic ecological relationship of common animals and plants.

BLY 411 (Identical with BTY 411)—PREPARATION TO TEACH THE AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES BIOLOGY COURSE. 3 credits
Offered 1. Prerequisite: Certificate to teach high school biology. Lectures, demonstrations and laboratory exercises designed to prepare high school teachers to use the methods and materials developed by the Biology Curriculum Study Committee of the A.I.B.S.

BLY 412 (Identical with BTY 412)—PREPARATION TO TEACH THE AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES BIOLOGY COURSE. 3 credits
Offered 2. Prerequisite: Certificate to teach high school biology. The second half of BLY 411-412.

BLY 430—INDIVIDUAL STUDIES IN ANIMAL BIOLOGY. 3 credits
Offered 1, 2. Prerequisites: At least fourteen hours in approved major courses in biology, and consent of instructor. Qualified students and the instructor concerned may choose a particular topic or problem for study. May be repeated for full credit.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

BLY 507—(Identical with GY 507)—VERTEBRATE PALEONTOLOGY. 4 credits
Offered 2. Prerequisites: BLY 309, GY 204 and GY 206. Available for graduate major credit. The origin, distribution and methods of fossilization of vertebrates.

BLY 516—ANIMAL PARASITOLOGY. 4 credits.
Offered 2. Prerequisite: CY 217 or equivalent. Available for graduate major credit. An ecological consideration of the animal organisms, especially the Protozoa and worms, which cause disease in man and the higher vertebrates.

BLY 531—(Identical with BTY 531)—CYTOLOGY. 4 credits
Offered 1. Prerequisites: 1 year General Biology or its equivalent, advanced standing and consent of the instructor. Available for graduate major credit. The study of the microscopic components of plant and animal cells. Considerations will be made of the structure, chemical constitution and function of the cell wall, protoplasm, cytoplasmic constituents and nucleus. The role of chromosome numbers and aberrations in speciation and evolution, and the problems related to abnormal growth and senescense will also be discussed.

BLY 541—PHYSIOLOGICAL GENETICS. 3 credits. Offered 1. Prerequisites: Courses in genetics and biochemistry, and consent of the instructor. Available for graduate major credit. Recent work on the chemical and physical nature of genetic material. Examples of genetic control of physiological processes.

BLY 560 (Identical with BTY 560)—RADIATION EFFECTS AND RADIATION BIOLOGY. 4 credits
Offered 1. Prerequisites: An undergraduate major in Science or Engineering with senior standing and permission of the instructor. Available for graduate major credit. General survey of radiations and their interactions with living and non-living matter. Physical and chemical background of radiations and effects, and survey of biological effects and mechanisms. The course will consist of about equal parts of Physics, Chemistry, and Biology. Calculus and Physical Chemistry not required.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

BLY 573—GENERAL PHYSIOLOGY. 4 credits
Offered 1. Prerequisites: CY 218; Organic Chemistry desirable. Available for graduate Major credit. The biochemistry and physiology of cells and organisms.

BLY 574—GENERAL PHYSIOLOGY. 4 credits
Offered 2. Prerequisites: CY 218; Organic Chemistry desirable. Available for graduate major credit. The physiology of the major organ systems of animals. May be taken without BLY 573.

GRADUATE COURSES

BLY 605—HISTORY OF BIOLOGY. 2 credits

BLY 606—BIOLOGICAL LITERATURE AND INSTITUTIONS. 2 credits

BLY 609—ZOOGEOGRAPHY. 2 credits

BLY 610—EXPERIMENTAL EMBRYOLOGY. 4 credits

BLY 612—MARINE ECOLOGY. 4 credits

BLY 625—PROTOZOOLOGY. 4 credits

BLY 626—ADVANCED ANIMAL ECOLOGY. 4 credits

BLY 630—INDIVIDUAL STUDIES IN ANIMAL BIOLOGY. 3 credits

BLY 632—ADVANCED INVERTEBRATE ZOOLOGY. 4 credits

BLY 633—PRINCIPLES OF SYSTEMATIC ZOOLOGY. 2 credits

BLY 641—COMPARATIVE PHYSIOLOGY. 4 credits

BLY 646—TOPICS IN GENETICS. 1 to 3 credits. Maximum 9 credits

BLY 651—ICHTHYOLOGY. 3 credits

BLY 652—HERPETOLOGY. 3 credits

BLY 653—MAMMALOGY. 4 credits

BLY 654—ORNITHOLOGY. 3 credits

BLY 660—RADIATION BIOLOGY. 4 credits

BLY 666—BIOMETRICS. 3 credits

BLY 690—SPECIAL TOPICS IN BIOLOGY. 3 credits

BLY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

BLY 754—ADVANCED ORNITHOLOGY. 4 credits

BLY 799—DOCTORAL DISSERTATION. 1 to 12 credits

Botany

INSTRUCTIONAL STAFF 1960-61

Noggle, G. R. Head; Conger, A. D.; Davis, J. H.; Ford, E. S.; Griffith, Mildred; Humphreys, T. E.; Monk, C. D.; Mullins, J. T.; Powell, R. D.; Sagawa, Y.; Ward, D. B.

Students desiring a major in botany, either in the College of Agriculture, or in the College of Arts and Sciences, should consult the Head of the Department as early as possible. For programs of study see Agriculture, lower division; Botany, Agriculture, upper division; B. S. in Biology, College of Arts and Sciences.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

BTY 180—INTRODUCTORY BOTANY. 4 credits
Offered 1, 2, 3. The form, structure, growth, reproduction and physiology of plants with emphasis on the flowering plants.

BTY 211—ELEMENTARY PLANT PHYSIOLOGY. 3 credits
Offered 1, 2. Prerequisites: BTY 180 or BLY 181 and one year of chemistry. A course designed to introduce the student to the basic concepts of plant physiology. Plant growth, mineral nutrition, translocation, water relations, metabolism and photosynthesis are discussed in relation of the overall functioning of the plant.

BTY 217—GENERAL BOTANY. 4 credits
Offered 1, 2. Prerequisites: 1 year of High School Biology and a total score on the twelfth grade Placement Tests of 450 or above, or BTY 180, or C-62. Corequisite: CY 217. A course on fundamentals of physiology and structure of plants generally, and of the morphology and distribution of the major kinds of plants.

BTY 301—LOCAL FLORA. 2 credits
Offered 2, 3. Prerequisite: BTY 180 or BLY 181 or equivalent. Laboratory observations of external features of organs of plants and practice in the use of keys to identify species. Field trips to principal types of plant communities in Northern Florida, emphasizing names, distributions and collections of plants readily identified in spring and summer. Each student will select a plant group or a local area for an individual project.

BTY 302—LOCAL FLORA. 2 credits
Offered 1. Prerequisite: BTY 301 or equivalent. A continuation of topics covered in BTY 301 with plants identifiable in autumn.

BTY 350—ECONOMIC BOTANY. 3 credits
Offered 2 in alternate years. Not offered in 1961-62. Prerequisite: BTY 180 or C-62. A survey of the products and materials provided by plants that are useful to man. Stress will be on the plants, especially the important ones and important families of plants that provide these products and the basic economics of their cultivation, processing and merchandising.

BTY 401—PLANT ECOLOGY. 4 credits
Offered 1. Prerequisites: BTY 180 or BTY 217 or FY 226. Kinds and classification of vegetation, particularly those of Florida, and consideration and measurement of climatic, edaphic, physiographic and biotic factors, and of plant successions.

BTY 405—EXPERIMENTAL BOTANY. 4 credits
Offered 1. Prerequisites: BTY 217 and CY 301 or CY 362-363. The comparative physiology of the major plant groups. Topics covered include organ, tissue and cell culture; growth; nutrition, and metabolism.

BTY 406—DESCRIPTIVE BOTANY. 4 credits
Offered 2. Prerequisite: BTY 217. The anatomy, morphology, taxonomy, and comparative ecology of the major plants groups. This is a survey course that stresses the basic features of the structure and classification of plants.

BTY 411 (Identical to BLY 411)—PREPARATION TO TEACH THE AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES BIOLOGY COURSE. 3 credits
Offered 1. Prerequisite: Certificate to teach high school biology. Lectures, demonstrations and laboratory exercises designed to prepare high school teachers to use the methods and materials developed by the Biology Curriculum Study Committee of the A.I.B.S.

BTY 412 (Identical to BLY 412)—PREPARATION TO TEACH THE AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES BIOLOGY COURSE. 3 credits
Offered 2. Prerequisite: Certificate to teach high school biology. The second half of BTY 411-412.

BTY 421—TAXONOMY OF VASCULAR PLANTS. 4 credits
Offered 2. Prerequisite: BTY 180 or BTY 217 or BLY 181 or BLY 217 or equivalent. A survey of the kinds of vascular plants with particular emphasis upon the seed plants, their classification, gross morphology, and evolutionary relationships.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

BTY 432—PLANT ANATOMY. 4 credits
Offered 2. Prerequisite: BTY 217 or equivalent. Origin, structure, and functions of principal tissues and organs of plants.

BTY 441—MICROTECHNIQUE. 3 credits
Offered 2. Prerequisites: BTY 180 or BTY 217 or BLY 181 or BLY 217 or equivalent. Practice in methods of preparing, recording, and illustrating biological materials from microscopic studies. Discussions on the principles of microscopy (light, phase, dark field and electron), photography and staining. Applications of microchemical tests, aseptic techniques, pure cultures, and autoradiography in histological and cytological studies will be discussed.

BTY 499—SPECIAL PROBLEMS IN BOTANY. 3 credits
Offered 1, 2, 3. May be repeated for a maximum of 6 credits. Prerequisites: At least twelve hours of botany, and consent of instructor. Qualified students and the instructor choose a particular problem for study.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

BTY 500—PLANT GEOGRAPHY. 3 credits
Offered 2 in alternate years. Offered in 1961-62. Prerequisites: BTY 217 or BTY 301 or

FY 226. Available for graduate major credit. The geography of both the floras and types of vegetation throughout the world, with emphasis on problems of distribution of taxa, and the main factors influencing types of vegetation.

BTY 511—GENERAL PLANT PHYSIOLOGY. 3 credits
Offered 1. Prerequisites: BTY 211, MS 325, CY 362. The first half of course BTY 511-512. Available for graduate major credit. A basic study of plant physiology. Topics covered include metabolism, nature of protoplasm, water relations, mineral nutrition, translocation, and growth phenomenon. This course is designed to give the non-specialist a working knowledge of the field and to serve as a basis for advanced study for the specialist.

BTY 512—GENERAL PLANT PHYSIOLOGY. 3 credits
Offered 2. Prerequisites: BTY 211, MS 325, CY 362. The second half of course BTY 511-512. Available for graduate major credit.

BTY 521—A COMPARATIVE SURVEY OF THE NON-VASCULAR PLANTS. 4 credits
Offered 2, in alternate years. Offered in 1961-62. Available for graduate major credit. Prerequisite: BTY 217 of equivalent. A comparative survey of the morphology, taxonomy and life history of selected members of the algae, fungi, and bryophytes.

BTY 531 (Identical to BLY 531)—CYTOLOGY. 4 credits
Offered 1. Prerequisites: One year of general biology or its equivalent, advanced standing and consent of the instructor. Available for graduate major credit. The study of the microscopic components of plant and animal cells. Consideration will be made of the structure, chemical constitution and function of the cell wall, protoplasm, cytoplasmic constitutents and nucleus.

BTY 560 (Identical to BLY 560)—RADIATION EFFECTS AND RADIATION BIOLOGY. 4 credits
Offered 1. Prerequisites: An undergraduate major in science or engineering with senior standing and permission of the instructor. Available for graduate major credit. General survey of radiations and their interactions with living and nonliving matter. Physical and chemical background of radiations and effects, and survey of biological effects and mechanisms. The course will consist of about equal parts of physics, chemistry and biology. Calculus and physical chemistry not required.

GRADUATE COURSES

BTY 600—PROBLEMS IN BOTANY. 1 to 3 credits. Maximum 6 credits

BTY 601—VEGETATION OF FLORIDA. 3 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

BTY 602—ECOLOGY OF AQUATIC PLANTS. 3 credits

BTY 604—VEGETATION OF THE TROPICS. 3 credits

BTY 605—PLANT GROWTH AND DEVELOPMENT. 3 credit

BTY 610—TOPICS IN PLANT PHYSIOLOGY. 1 to 3 credits. Maximum 9 credits

BTY 631—MORPHOLOGY OF VASCULAR PLANTS. 3 credits

BTY 635—PLANT CYTOLOGY. 3 credits

BTY 646—TOPICS IN GENETICS. 1 to 3 credits. Maximum 9 credits

BTY 655—BOTANY SEMINAR. 1 credit

BTY 660—RADIATION BIOLOGY. 4 credits

BTY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

BTY 799—DOCTORAL DISSERTATION. 1 to 12 credits

Broadcasting

INSTRUCTIONAL STAFF 1960-61

Welmer, R. O., Director; Burton, M. E.; Christiansen, K. A.; Franks, L. E.; Gilstrap, G. W.; Glick, E. L.; Haney, J. R.; Lewis, W.; McIntosh, E. R.; Newbill, M.; Small, K. F.; Weaver, J. C.

Offerings in Broadcasting are designed primarily for those planning professional careers in radio and television media and in related fields. These courses, however, may be taken for elective credit by students in all Upper Division units of the University. Students interested in major work in Radio, Television, Advertising, Journalism and Public Relations are also referred to course offerings under Advertising and Journalism and to the requirements of the School of Journalism and Communications.

BR 212—BROADCAST ANNOUNCING. 3 credits
Offered 1, 2. Intensive training in broadcast speech communication: announcing, commentating, moderating, reporting, performing.

BR 318—BROADCAST WRITING. 3 credits
Offered 1, 2. Prerequisite: JM 201 or permission of instructor. Writing foı radio and television: Announcements, interviews, music, special events documentaries, commentaries.

BR 323—RADIO PRODUCTION. 3 credits
Offered 1, 2. Planning and producing basic programs for the independent and network affiliate. The production commercial, studio and control room operation.

BR 325—TELEVISION PRODUCTION. 3 credits
Offered 1, 2. Perequisite: BR 323. Elements of television, fundamentals of production, and training in studio operation.

BR 328—BROADCASTING IN THE PUBLIC INTEREST. 2 credits
Offered 2. Broadcasting as a means of presenting informational, education, and cultural forums, interviews, and other special events.

BR 424—RADIO DIRECTING. 3 credits
Offered 1, 2. Prerequisite: BR 323. Theory and practice in producing music programs, news broadcasts, interviews, forums, documentaries, and remote broadcasts.

BR 425—THE BROADCAST PROGRAM. 3 credits
Offered 1, 2. Prerequisite: BR 325. An examination of the problems of planning and producing the broadcast program schedule: schedule building, broadcast regulation, broadcast ethics and responsibilities, traffic, and station music library operation.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

BR 426—TELEVISION DIRECTING. 3 credits
Offered 2. Prerequisite BR 325. A study of the creative and artistic phase of the television program; creative camera work, performance of talent, lighting, special effects, and the executive functions of the producer.

BR 430—INDIVIDUAL PROBLEMS. 3 credits
Offered 1, 2. Prerequisite: At least 15 hours of Broadcasting in the Upper Division, and approval of the Director. Designed for seniors in their graduating semester.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

BR 518—TEACHING THROUGH TELEVISION. 3 credits
Offered 2, 3. Prerequisite: Senior or Graduate standing. Study of the elements of educational and informational television-radio programs; planning, preparation and production.

BR 560—BROADCASTING SEMINAR. 2 credits
Offered 1, 2. Prerequisite: 15 hours of Broadcasting. A study and analysis of management and operational problems of educational and commercial broadcasters. Field trips required.

GRADUATE COURSES

For graduate courses in this area see listings under Communications.

Building Construction

INSTRUCTIONAL STAFF 1960-61

Block, H. H., Head; Caldwell, W. T.; Crosby, G. A.; Halperin, D. A.; Johnson, L. A.; Kirkpatrick, E. E.; Phaneuf, V. S.; Royer, K.; Stakely, J. O.; Summerlin, J. E.; Thompson, J. D.; Trimmer, J. M.; Tschorn, F. H.; Zeigler, C. D.

BCN 102—CONSTRUCTION DRAWING. 3 credits
Offered 1, 2, 3. Drawing, freehand and with drawing instruments, orthographic projection, isometric and perspective drawing, lettering, working drawings and symbols. The majority of the work will be in pencil, but techniques in ink and color will be introduced.

BCN 203—CONSTRUCTION PLANNING. 3 credits
Offered 1, 2, 3. Prerequisite: BCN 102. Activities and functions of contractor, builder, specialty contractors and various trades. Comparing building elements and structural systems, plan assembly and erection. Study minimum acceptable standards. Prepare plot and building plans and working drawings with details. Basic quantity survey.

BCN 204—HISTORY OF BUILDING. 3 credits
Offered 1, 2, 3. The historic details, and the design and construction problems having reference to the various eras previous to modern times.

BCN 205—BASIC STUDIES OF MATERIALS. 3 credits
Offered 1, 2, 3. Prerequisite: Sophomore standing. Nature of construction materials by source classification, trade names, and their general physical and chemical properties.

BCN 206—CONSTRUCTION MECHANICS. 3 credits
Offered 1, 2, 3. Prerequisite: MS 106 and PS 201. The study of loads, shear, bearing, bending moments, and the resolution of forces into components and/or resultants as applied in the design of structures. The study of stress, strain, moment of inertia, centroid, section modulus, radius of gyration, and kern. Simple beam and column design.

BCN 301—STRUCTURAL DESIGN. 4 credits
Offered 1, 2. Prerequisite: BCN 206. Design of timber structures, including continuous beams, planking, and tension members, and connections with nails, bolts, screws, and ring connectors. Analysis of trusses and frames with emphasis on comparative costs.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

BCN 302—WATER SUPPLY AND SANITATION. 2 credits
Offered 1, 2. Plumbing installations in buildings, provisions for water supply and sanitary facilities. Trade practices. Building Code requirements. Systems layout and design. General layout and detail drawings are prepared.

BCN 303—CONSTRUCTION METHODS AND EQUIPMENT. 3 credits
Offered 1, 2. Prerequisite: BCN 203. The investigation of various construction methods, materials, and equipment. Basic methods and nomenclature used in the construction industry, especially for wood and timber. Shop and field details are studied and drawings prepared.

BCN 304—MATERIALS—WOOD AND TIMBER STRUCTURE. 2 credits
Offered 1, 2. Prerequisite: BCN 205. The study of construction materials such as, but not only, earth and soils, insulating material, roofing and flashing, plywood, laminates. Special emphasis on wood, its properties and uses, classifications and grading, methods of manufacture and preservation.

BCN 305—CONSTRUCTION ESTIMATES AND COSTS. 4 credits
Offered 1, 2. Prerequisites: BCN 203 and 205. Interpretations of construction drawings of wood and timber structures. Introduction to estimating quantities and costs of materials, and labor costs for buildings of light wood frame construction.
The cost of construction equipment for wood and timber structures. Project cost estimates are prepared.

BCN 311—STRUCTURAL DESIGN. 4 credits
Offered 1, 2. Prerequisite: BCN 301. The design of metal structural systems of buildings, rigid frames, and subsidiary members for mill buildings and multi-story structures. Riveted, welded, and bolted connections are utilized and compared.

BCN 312—AIR CONDITIONING AND HEATING. 2 credits
Offered 1, 2. Prerequisite: BCN 302. Properties and transmission of heat. Air Conditioning standards, design methods, equipment and controls. Heating systems, including mechanical warm air, steam, hot water radiator, radiant baseboard, and radiant panel.

BCN 313—CONSTRUCTION METHODS AND EQUIPMENT. 3 credits
Offered 1, 2. Prerequisite: BCN 303. The preparation, fabrication, assembly, and correct placement of structural steel and metal alloys. The installation of various exterior and interior assemblies and finishing materials are investigated, studied and planned. The use of heavy construction equipment is analyzed. Shop and field details are studied and drawings prepared.

BCN 314—MATERIALS—STRUCTURAL METALS. 2 credits
Offered 1, 2. Prerequisite: BCN 304. The study of construction materials such as, but not only, glass, plastics, rubber products, brick, concrete masonry, hardware, wall finishing materials, and ferrous and non-ferrous metals, properties and uses, methods of fabrication and finishing.

BCN 315—CONSTRUCTION ESTIMATES AND COSTS. 4 credits
Offered 1, 2. Prerequisite: BCN 305. Interpretation of construction drawings of complex buildings, of structural steel or metal alloy construction, and related materials. Estimating quantities and cost of materials and the labor costs. Determining costs of various methods and/or construction equipment. Project cost estimates are prepared.

BCN 320—PREFABRICATION. 3 credits
Offered 1. Prerequisite: BCN 301. The study of materials, methods, design and estimating of prefabricated component units, and panels, except concrete, in buildings.

BCN 321-322-323—SPECIAL STUDIES IN BUILDING CONSTRUCTION. 1-3 credits each unit.
Offered 1, 2. Special studies in Building Construction to provide for the individual requirements of students desiring supplemental work in the Building Construction area.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

BCN 401—STRUCTURAL DESIGN. 4 credits
Offered 1, 2. Prerequisite: BCN 311. Detailed investigations are made of the structural requirements for the various special structures included in the studies. The work will include the planning, designing, and detailing of reinforced concrete structures.

BCN 402—ELECTRICAL SERVICE AND INSTALLATIONS. 2 credits
Offered 1, 2. Prerequisite: BCN 312. The basic design and installation of electric wiring and equipment, illumination, and vertical transportation.

BCN 403—CONSTRUCTION METHODS AND EQUIPMENT. 3 credits
Offered 1, 2. Prerequisite: BCN 313. The selection of materials, equipment and temporary structures, and methods for assembling and placing reinforced concrete forms, shoring, needling, and underpinning are investigated and planned. Shop and field details are studied and drawings prepared.

BCN 404—MATERIALS—CONCRETE STRUCTURES. 2 credits
Offered 1, 2. Prerequisite: BCN 314. The cumulative study of materials used in the building industry is continued, and expanded to include the details of such additional items as brick, concrete, stone masonry, concrete footings, slabs, columns, waterproofing, solvents, and detergents.

BCN 405—CONSTRUCTION ESTIMATES AND COSTS. 4 credits
Offered 1, 2. Prerequisites: BCN 315. Interpretation of construction drawings for reinforced concrete structures and concrete products. Estimating quantities of materials and determining cost in place by various construction methods and construction equipment. Complete project cost estimates are prepared.

BCN 408—FORMWORK FOR CONCRETE. 3 credits
Offered 1: Prerequisite: Senior standing. The study of materials, methods, design, and estimating of formwork for concrete structures.

BCN 409—PRECAST CONCRETE. 3 credits
Offered 2. Prerequisite: Senior standing. The study of materials, methods, design and estimating of formwork for concrete structures.

BCN 411—SUPERVISION AND MANAGEMENT. 4 credits
Offered 1, 2. Prerequisites: BCN 403 and 405. Duties and functions of the General Contractors, Construction Manager, Home Builder, Specialty Contractor and Supplier of Building Materials, and their relations to other professions and the public. Studies of contracts, codes, bonds, insurance, building specifications, labor relations, office and job management, office and field organization, and supervision of construction. Field inspection of current procedures.

BCN 412—SITE LAYOUT AND DEVELOPMENT. 3 credits
Offered 1, 2. Prerequisite: BCN 403. Preliminary site reconnaissance, layout, and surveys. Establishing lines and grade for project and job layout, excavation, and construction by the use of carpenters' level, steel tape, plumb bob, straight edge, and surveyor's transit and level.

BCN 413—PROJECT AND CONSTRUCTION FINANCING. 2 credits
Offered 1, 2. Prerequisite: RE 291. Basic principles which concern the builder or developer in the acquisition and development of project sites. Consideration of various means and methods for financing property acquisition and construction operations.

BCN 414—HISTORY OF BUILDING CONSTRUCTION. 2 credits
Offered 1, 2. Prerequisite: Senior standing. A survey of construction materials, equipment, methods and systems in modern times. The correlation of geographic, climatic and geological conditions in specific areas with the progression in building practices and the contributions of religion, social structure, and commerce.

BCN 415—SPECIAL INVESTIGATION. 2 credits
Offered 1, 2. Prerequisite: Senior standing. Opportunity will be provided, subject to faculty approval, for the selection of work by each student in his field of special interest in the building industry. The student will investigate, assemble material, and prepare a report.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

GRADUATE COURSES

BCN 601—BUILDING CONSTRUCTION. 3 or 6 credits

BCN 602—BUILDING CONSTRUCTION. 3 or 6 credits

BCN 603—BUILDING RESEARCH. 3 or 6 credits

BCN 604—BUILDING RESEARCH. 3 or 6 credits

BCN 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

Business Administration - General

Courses numbered below 300 are not open to students with 4BA classification. Courses numbered 300 or higher are open only to students with junior standing or above. Note, however, specific prerequisites for certain courses.

BS 101—BUSINESS IN A DYNAMIC SOCIETY. 2 credits
Offered 1, 2. Orientation to the study of business administration. Environmental factors; forces or change; analysis of business structure and functions; current and emerging problems.

BS 464—STATISTICAL CONTROLS FOR MANAGEMENT. 3 credits
Offered 2. The methods and devices used by management in the collection, interpretation and application of data for the control and correction of managerial problems.

BS 479—BUSINESS POLICIES. 3 credits
Offered 1, 2. A study of business policies correlating the functions of sales, procurement, personnel, and finance, in various industries. Open only to seniors and graduate students.

GRADUATE COURSES

For admission to courses listed below, the student must have been admitted to the Graduate School and normally should have had undergraduate courses in fields pertinent to the graduate courses selected; or where necessary, special arrangements may be made with the approval of the dean.

BS 610—MANAGERIAL ACCOUNTING. 3 credits

BS 664—MANAGERIAL STATISTICS. 3 credits

BS 671—HUMAN RELATIONS IN BUSINESS. 3 credits

BS 679—BUSINESS POLICY. 3 credits

BS 690—BUSINESS RESEARCH AND REPORTS. 3 credits

BS 799—DOCTORAL DISSERTATION. 1 to 12 credits

Business Education

INSTRUCTIONAL STAFF 1960-61

Moorman, J. H., Head; Crews, J. W.; Dodson, G. A.; Jones, R. L.

BEN 81—INTRODUCTORY TYPEWRITING. 2 credits
Offered 1, 2, 3. Skill in typewriting is developed through practice upon personal and business problems. It is intended that the student will develop the skill necessary to meet his personal needs in typewriting.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

BEN 82—INTERMEDIATE TYPEWRITING. 1 credit
Offered 1, 2. Prerequisite: Permission of department. For those who have had a limited amount of typewriting instruction but cannot successfully progress in BEN 181. Further skill in developing personal and business typing is stressed.

BEN 91—INTRODUCTORY SHORTHAND. 3 credits
Offered 1, 2, 3. The theory of Gregg shorthand is completed, using the functional method approach.

BEN 92—INTERMEDIATE SHORTHAND. 1 credit
Offered 1, 2. Prerequisite: Permission of department. For those who have had a limited amount of shorthand instruction but cannot successfully progress in BEN 191. Further skill in writing and reading shorthand is developed.

BEN 181—ADVANCED TYPEWRITING. 2 credits
Offered 1, 2, 3. Prerequisite: BEN 81, BEN 82, or permission of department. More intensive training in typewriting. An emphasis will be placed on increased speed and special forms, including reports and manuscripts.

BEN 191—SHORTHAND DICTATION. 3 credits
Offered 1, 2, 3. Prerequisites: BEN 91, BEN 92, or permission of department. Dictation is developed, with emphasis on both speed and accuracy. There is a continued emphasis on shorthand skills.

BEN 291—SHORTHAND DICTATION AND TRANSCRIPTION. 3 credits
Offered 1, 2. Prerequisites: BEN 181, and BEN 191, or permission of the department. Major emphasis is on development of ability to transcribe shorthand notes accurately and rapidly. Continued development of ability to take dictation in Gregg Shorthand. Required for teacher certification in shorthand.

BEN 351—OFFICE PRACTICE TECHNIQUES. 3 credits
Offered 2. The principles of filing, mailing, and other office practices. Limited office experience. Through practice, the student will become fully acquainted with the more important principles and processes.

BEN 352—OFFICE MACHINE TECHNIQUES. 3 credits
Offered 1, 2, 3. Prerequisite: BEN 81 or permission of department. A survey course designed to acquaint students with the capabilities and limitations of selected voice-writing machines, duplicating machines, adding machines and calculating machines.

Chemical Engineering

INSTRUCTIONAL STAFF 1960-61

Beisler, W. H. Head; Huckaba, C. E.; Keppel, R. A.; May, F. P.; Nolan, W. J.; Reed, T. M.; Shaffer, M. R.; Schweyer, H. E.; Simons, J. H.; Teller, A. J.; Tyner, M.; Walker, R. D.

CG 347—INDUSTRIAL STOICHIOMETRY. 3 credits
Offered 1, 2, 3. Prerequisites or corequisites: CY 331; MS 354 and PS 205.
The applications of stoichiometric fundamentals to the solution of industrial process problems by use of the natural laws of conservation of mass and energy.

CG 348—INDUSTRIAL STOICHIOMETRY AND FUELS. 4 credits
Offered 1, 2. The second half of the course CG 347-348.

CG 355—PRINCIPLES OF CHEMICAL ENGINEERING, I. 3 credits
Offered 1, 2. Prerequisites: CG 347 or EG 282 or EM 365. A unified treatment of mass, momentum and heat transport phenomena and the application of the basic principles to the solution of engineering problems.

CG 356—PRINCIPLES OF CHEMICAL ENGINEERING, II. 3 credits
Offered 2, 3. The second part of the course CG 355, 356, 457.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

CG 361—MATERIALS OF ENGINEERING. 3 credits
Offered 1, 2. Prerequisites: CY 218, PS 205. Prerequisite or corequisite: PS 206. Effects of stress on the properties, transformation and other characteristics of metallic, ceramic and organic materials. Selection of materials for engineering applications.

CG 364—CHEMICAL ENGINEERING THERMODYNAMICS, I. 3 credits
Offered 1, 2. Prerequisite: MS 354. Prerequisites or corequisites: CY 401, CG 355. Thermodynamics concepts, equations of state, the first two laws of thermodynamics and methods for approximating thermodynamic properties.

CG 401—PROCESS CONTROL THEORY. 3 credits
Offered 1. Prerequisites: Differential Equations and CG 348 or ML 385. Available for graduate credit. The analysis and automatic control of simple process systems.

CG 405—CHEMICAL PROCESS PROBLEMS, I. 3 credits
Offered 1. Prerequisites: The equivalent of CY 217-218, PS 206 and MS 354. A survey of chemical engineering for non-chemical engineers. Material and energy balances in chemical processes including introduction to engineering practice in fluid flow, solids processing, filtration and heat transfer.

CG 406—CHEMICAL PROCESS PROBLEMS, II. 3 credits
Offered 2. Prerequisites: CG 405 or equivalent. The second half of CG 405 which covers mass transfer operations in distillation, absorption and extraction. Included also are elementary considerations of economics and design of chemical engineering equipment.

CG 442—CHEMICAL ENGINEERING SEMINAR, 1 credit
Offered 1.

CG 443—CHEMICAL ENGINEERING LABORATORY. 2 credits
Offered 1. Prerequisite: CG 356. Prerequisite or corequisite: CG 364. Experiments in chemical engineering operations.

CG 444—CHEMICAL ENGINEERING LABORATORY. 2 credits
Offered 2. The second half of the course CG 443-444. Prerequisite: CG 457.

CG 451—CHEMICAL ENGINEERING ECONOMICS. 3 credits
Offered 1. Prerequisite: CG 356. Prerequisites or corequisites: CG 443 and CG 457. Applications of principles of economics to chemical engineering problems in the selection of equipment and the replacement of equipment; in cost accounting and estimates involved in plant operations and plant design.

CG 457—PRINCIPLES OF CHEMICAL ENGINEERING III. 3 credits
Offered 1. The third part of the course CG 355, 356, 457.

CG 465—CHEMICAL ENGINEERING THERMODYNAMICS, II. 3 credits
Offered 2, 3. Prerequisite: CG 364. Thermodynamics of solutions, physical and chemical equilibrium with applications to unit operations, the third law of thermodynamics.

CG 472—CHEMICAL KINETICS AND PROCESSING. 4 credits
Offered 2. Prerequisite: CG 465. Elementary kinetics principles for batch, semi-batch and flow systems with emphasis on sizing of equipment and the practical engineering involved.

CG 474—PROJECT ENGINEERING OF CHEMICAL PROCESSES. 2 credits
Corequisite: CG 472. The application of the fundamental principles of Chemical Engineering in the solution of comprehensive problems in processes required for chemical projects.

CG 511—ORGANIC CHEMICAL PROCESSING. 3 credits
Available for graduate credit. The fundamental principles involved in the manufacture of organic compounds.

CG 530—NUCLEAR CHEMICAL ENGINEERING. 3 credits
Offered 2. Prerequisites: CY 402; and NR 400 or CY 560. Available for graduate credit. Review of nuclear physics and radiochemistry. Preparation of nuclear fuels, types of reactors and fuel processing. Radiation damage.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

CG 532—CHEMICAL PROCESS ECONOMICS. 3 credits
Offered 1. Prerequisite: Bachelor's degree in chemical engineering or equivalent. Available for graduate credit. The application of economic principles to the design and operation of equipment and plants in the chemical process industries.

CG 563—PETROLEUM TECHNOLOGY. 3 credits
Offered 2. Available for graduate credit. Composition of petroleum gases, liquids and solids. Multicomponent distillation; absorption; thermal and catallytic cracking; polymerization and isomerization including the application of thermodynamics to these processes.

CG 567—PROTECTIVE AND DECORATIVE ORGANIC COATINGS, I. 3 credits
Offered 1. Prerequisites: CG 356 and CY 302. Available for graduate credit. Natural and synthetic oils and resins, varnish and lacquers; solvents, driers and plasticizers. Theories of oxidation and polymerization, film formation, and film evaluation.

CG 568—PROTECTIVE AND DECORATIVE ORGANIC COATINGS, II. 3 credits
Offered 2. Prerequisite: CG 567. Available for graduate credit. White and colored pigments; architectural and industrial paints; optical and rheological properties of paints systems; corrosion inhibitive paints; methods of test and evaluation of durability of organic coatings.

CG 571—TECHNOLOGY OF PULP AND PAPER. 3 credits
Offered 1. Prerequisites or corequisites: CG 356, CG 457. Available for graduate credit. Pulping procedures; operation of the woodyard; chemical recovery system; reactions involved in the chemical degradation of cellulose; lignin chemistry in relation to pulping methods; by-products from pulping reactions.

CG 572—TECHNOLOGY OF PULP AND PAPER. 3 credits
Offered 2. Available for graduate credit. The Foudrinier paper machine, the cylinder machine, the press section, drying of paper, calendering and supercalendering; book, fancy, and functional paper.

CG 581—TECHNOLOGY OF RESINS, PLASTICS, AND ELASTOMERS. 3 credits
Offered 2. Prerequisite: 628 or equivalent. Available for graduate credit. Problems and discussions in the practical aspects of resins, plastics, and elastomers, including preparation of raw materials, testing, processing, and commercial applications of such high molecular weight materials.

GRADUATE COURSES

CG 601—GRADUATE SEMINAR. No credit

CG 612—SPECIAL TOPICS IN CHEMICAL ENGINEERING. 3 credits

CG 613—CHEMICAL ENGINEERING CALCULATIONS. 3 credits

CG 614—PROCESS SYSTEMS ENGINEERING. 3 credits

CG 621—DIFFUSIONAL OPERATIONS I. 3 credits

CG 622—CHEMICAL ENGINEERING KINETICS. 3 credits

CG 623—DIFFUSIONAL OPERATIONS II. 3 credits

CG 631—ADVANCED CHEMICAL ENGINEERING THERMODYNAMICS I. 3 credits

CG 632—ADVANCED CHEMICAL ENGINEERING THERMODYNAMICS II. 3 credits

CG 641—RATE AND TRANSPORT PHENOMENA. 3 credits

CG 648—MICROMERITICS. 3 credits

CG 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

CG 799—DOCTORAL DISSERTATION, 1 to 12 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

Chemistry

INSTRUCTIONAL STAFF 1960-61

Sisler, H. H., Head; Anthony, D. S.; Baxter, J. F.,; Black, A. P.; Brey, W. S. Jr.; Brown, H. C.; Butler, G. B.; Calais, J. L.; Colgate, S. O.; Dresdner, R. D.; Gropp, A. H.; Hanrahan, R. J.; Hawkins, J. E.; Jones, W. M.; Lippincott, W. T.; Lowdin, P. O.; Muga, M. L.; Muschlitz, E. E. Jr.; Otte, B. J.; Pearce, J. M.; Reid, C. E.; Roderick, W. R.; Ryschkewitsch, G. E.; Simons, J. H.; Smith, D. W.; Stearns, T. W.; Stoufer, R. C.; Tarrant, P.; Wethington, J. D. Jr.; Winefordner, J. D.; Young, J. A.

Three beginning courses in chemistry are offered: CY 109, CY 215 and CY 217. CY 109 is the first semester of the non-laboratory course CY 109-110, which is a terminal course not open to science and engineering students. CY 215, is a one-semester, three-lecture, one-recitation, non-laboratory course, for science and engineering students who do not meet the requirements for immediate registration in CY 217. CY 217 is open to students who earn a grade of C in CY 215 or who have had three years of high school mathematics, one year of high school chemistry and whose average percentile ranking on the five divisions of the senior high scholarship placement test is 80 or above. Chemistry majors should consult Dr. C. E. Reid, 156 Leigh Hall.

CY 109—ELEMENTS OF CHEMISTRY. 3 credits
Offered 1. The first half of the course CY 109-110. A terminal course presenting selected topics in inorganic and organic chemistry and emphasizing the contributions of chemistry to modern life.

CY 110—ELEMENTS OF CHEMISTRY. 3 credits
Offered 2. The second half of the course CY 109-110.

CY 215—INTRODUCTORY CHEMISTRY. 3 credits
An introduction to the elementary principles of modern chemistry. Designed for students who are not prepared to take CY 217 as a first college course. This course will not count for credit toward the B.S. in Chemistry degree. Corequisite: MS 105 or C-42. Students who are qualified to register for CY 217 may not take this course.

CY 217—GENERAL CHEMISTRY AND QUALITATIVE ANALYSIS. 4 credits
Offered 1, 2, 3. Prerequisites: CY 215 (with a grade of C or better) or 1 credit in high school chemistry, 3 credits in high school mathematics or a percentile rank of 90 or better in the mathematics test of Florida 12th-grade testing program, and a total percentile rating on the Florida 12th grade testing program of 400 or better. Prerequisite or corequisite: one semester of college mathematics. Principles of chemistry; the descriptive chemistry of familiar elements and inorganic compounds as related to atomic, molecular, or crystal structure and to position in the Periodic System; an introduction to ionic equilibria, ionic separation, and the detection of selected ions.

CY 218—GENERAL CHEMISTRY AND QUALITATIVE ANALYSIS. 4 credits
Offered 1, 2, 3. The second half of the course CY 217-218.

CY 301—ORGANIC CHEMISTRY. 3 credits
Offered 1, 2. The first half of the course CY 301-302. Prerequisite: CY 218. Corerequisite: CY 303 or CY 305 for students working for the B. S. in Chemistry. Preparation and properties of the various aliphatic and aromatic compounds.

CY 302—ORGANIC CHEMISTRY. 3 credits
Offered 2, 3. The second half of the course CY 301-302. Corequisite: CY 304, or CY 306 for students working for the B.S. in Chemistry.

CY 303—ORGANIC CHEMISTRY. 1 credit
Offered 1, 2. Corequisite: CY 301.

CY 304—ORGANIC CHEMISTRY. 1 credit
Offered 2, 3. Corequisite: CY 302.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

CY 305—ORGANIC CHEMISTRY. 2 credits
Offered 1, 2. Corequisite: CY 301.

CY 306—ORGANIC CHEMISTRY. 2 credits
Offered 2, 3. Corequisite: CY 302.

CY 315—THE CHEMISTRY OF WATER TREATMENT. 3 credits
Offered 2. Prerequisite: CY 218. A theoretical and practical study of the examination and treatment of water.

CY 316—THE CHEMISTRY OF WATER TREATMENT. 1 credit
Prerequisite: CY 218. Corequisite: CY 315. Not available to students who have credit for CY 331 or equivalent.

CY 317—PHYSICAL CHEMISTRY. 4 credits
Offered 1, 2. Prerequisite: CY 331, MS 105. Corequisite: Organic Chemistry. Properties of solutions, chemical equilibrium, pH, the colloidal state; particular emphasis on biochemical applications. Designed primarily for students of medicine, pharmacy, biology, and related fields.

CY 331—INTRODUCTORY QUANTITATIVE ANALYSIS. 4 credits
Offered 1, 2, 3. Prerequisite: CY 218. Theoretical principles and laboratory technique involved in quantitative determinations. Determinations include gravimetry, acidimetry and alkalimetry, oxidimetry and iodimetry.

*CY 362—ORGANIC CHEMISTRY. 3 credits
Offered 1, 2, 3. Prerequisite: CY 218. A brief elementary course embracing the more important aliphatic and aromatic compounds.

CY 363—ORGANIC CHEMISTRY. 2 credits
Offered 1, 2, 3. Corequisite: CY 362.

CY 400—CHEMISTRY FOR TEACHERS. 6 credits
Offered 3. Prerequisite: one year of college chemistry. This course is designed primarily for teachers who wish to expand either their background in chemistry or to refresh themselves with a modern approach. It will consist of a combination of lecture and laboratory work, reviewing fundamentals of chemistry and stressing recent developments and techniques in the field.

**CY 401—PHYSICAL CHEMISTRY. 3 credits
Offered 1, 2. The first half of the course CY 401-402. Prerequisites: PS 202 or PS 206, and MS 354. Matter in the three states, elementary thermodynamics, solutions, colloids, electricity as applied to chemistry, homogeneous and heterogeneous equilibria, chemical kinetics, introduction to quantum theory.

**CY 402—PHYSICAL CHEMISTRY. 3 credits
The second half of the course CY 401-402. Offered 2, 3.

CY 405—PHYSICAL CHEMISTRY. 1 credit
Offered 1, 2. Corequisite: CY 331 and CY 401

CY 406—PHYSICAL CHEMISTRY. 1 credit
Offered 2, 3. Corequisite: CY 402.

CY 432—ADVANCED QUANTITATIVE ANALYSIS. 4 credits
Offered 2. Prerequisite: CY 331 and CY 401. Corequisite: CY 402. A study of the fundamental principles underlying chemical methods and an introduction to instrumental methods of analysis.

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* This lecture course may not be taken without the corresponding laboratory course except by special permission.

** These lecture courses may not be taken without the corresponding laboratory course except by physics majors, or by special permission of the instructor.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

CY 481—CHEMICAL LITERATURE. 1 credit
Offered 1, 2. Prerequisite: 3 years of chemistry. A reading knowledge of French and German is desirable. The present sources of published chemical information.

CY 498—SENIOR RESEARCH. 2 credits
Offered 1, 2, 3. Prerequisite or corequisite: CY 481, senior standing and consent of instructor. Laboratory or literature investigations of chemical problems of current interest.

CY 499—SENIOR RESEARCH. 3 credits
Offered 1, 2, 3. Prerequisite or corequisite: CY 481, senior standing and consent of instructor. Laboratory or literature investigations of chemical problems of current interest.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

CY 501—RADIATION CHEMISTRY. 3 credits
Offered 1. Prerequisite: CY 402. Available for graduate major credit. Photochemistry; chemical and physical effects caused by ionizing radiation. Radiation synthesis, catalysts, food sterilization, use of high intensity sources in the process industries.

CY 511—INORGANIC CHEMISTRY. 3 credits
Offered 1. Prerequisite: CY 401. Available for graduate major credit. Advanced systematic inorganic chemistry, including inorganic syntheses.

CY 512—PHYSICAL CHEMISTRY. 3 credits
Offered 2. Prerequisite CY 402. Available for graduate major credit. Radiation and chemical change; structure of matter, radioactivity, photochemistry.

CY 514—ORGANIC CHEMISTRY. 3 credits
Offered 1. Prerequisite: CY 302. Available for graduate major credit. Typical reactions which are utilized in the synthesis and proof of structure of organic compounds; the qualitative detection of various functional groups and quantitative determination of carbon, hydrogen and nitrogen in organic compounds. Laboratory techniques, methods for oxidation and reduction, high pressure catalytic reactions and material costs of certain synthesis are studied.

CY 515—INDUSTRIAL WATER TREATMENT. 3 credits
Offered 1. Prerequisites: CY 315 and CY 331. Available for graduate major credit. The chemistry of water conditioning to meet the varied needs of industry.

CY 550—NUCLEAR CHEMISTRY. 3 credits
Offered 1. Prerequisite: CY 402 or equivalent. Available for graduate major credit. A course in the chemical phases of nuclear science for chemistry majors or students intending to specialize in some area of nuclear science. Radioactivity, nuclear structure, decay processes, nuclear reactions, nuclear and atomic effects associated with the absorption of radiation, radiochemical separations, counting techniques.

GRADUATE COURSES

CY 601—ORGANIC PREPARATIONS. 3 credits

CY 603—ADVANCED RADIATION PROCESSES. 3 credits

CY 604—INORGANIC PREPARATIONS. 3 credits

CY 609—THEORY OF SOLUTIONS. 3 credits

CY 611—STRUCTURAL INORGANIC CHEMISTRY. 2 credits

CY 612—STRUCTURAL INORGANIC CHEMISTRY. 2 credits

CY 613—COLLOIDS. 3 credits

CY 615—ADVANCED INORGANIC CHEMISTRY. 3 credits

CY 616—ADVANCED INORGANIC CHEMISTRY. 3 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

CY 617—SPECIAL TOPICS IN INORGANIC CHEMISTRY. 3 credits

CY 620—ELEMENTS OF QUANTUM CHEMISTRY. 3 credits

CY 621—CHEMICAL THERMODYNAMICS. 3 credits

CY 622—CHEMICAL THERMODYNAMICS. 3 credits

CY 623—ADVANCED PHYSICAL CHEMISTRY. 3 credits

CY 624—CHEMICAL KINETICS. 3 credits

CY 625—CHEMISTRY OF THE TERPENES. 3 credits

CY 627—LABORATORY DISTILLATION. 3 credits

CY 628—CHEMISTRY OF HIGH POLYMERS. 3 credits

CY 629—WATER SUPPLY AND TREATMENT. 3 credits

CY 630—PHYSICAL-ORGANIC CHEMISTRY. 3 credits

CY 633—INSTRUMENTAL ANALYSIS. 3 credits

CY 634—INSTRUMENTAL ANALYSIS. 3 credits

CY 636—SPECTROCHEMICAL ANALYSIS. 3 credits

CY 639—ANALYTICAL CONTROL OF WATER TREATMENT. 3 credits

CY 641—ORGANIC FLUORINE CHEMISTRY. 3 credits

CY 659—SEMINAR IN FLUORINE CHEMISTRY. 3 credits

CY 661—ADVANCED ORGANIC CHEMISTRY. 2 credits

CY 662—ADVANCED ORGANIC CHEMISTRY. 2 credits

CY 663—ORGANOMETALLIC COMPOUNDS. 2 credits

CY 664—FREE RADICAL REACTIONS. 2 credits

CY 665—THE CHEMISTRY OF HETEROCYCLIC COMPOUNDS. 2 credits

CY 666—ORGANIC REACTION MECHANISMS. 3 credits

CY 667—SPECIAL TOPICS IN ORGANIC CHEMISTRY. 2 credits

CY 678—ADVANCED PHASE DIAGRAMS. 3 credits

CY 691—SPECIAL TOPICS IN PHYSICAL CHEMISTRY. 1 to 3 credits

CY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

CY 721—THEORY OF MOLECULAR STRUCTURE I. 3 credits

CY 722—THEORY OF MOLECULAR STRUCTURE II. 3 credits

CY 799—DOCTORAL DISSERTATION. 1 to 12 credits

Civil Engineering

INSTRUCTIONAL STAFF 1960-61

Kluge, R. W., Head; Black, A. P.; Bruun, P. M.; Conyers, A. L.; Furman, T. deS.; Gaynor, T. E.; Gerritsen, F.; Gilcreas, F. W.; Grantham, W. J.; Hendrickson, E. R.; Katterhenry, A. A.; Kiker, J. E.; Lackey, J. B.; Morgan, G. B.; Ozell, A. M.; Richart, F. E.; Sawyer, D. A.; Schmertmann, J. H.; Spangler, B. D.; Zia, P. Z.; Zimpfer, W. H.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

CL 223—ELEMENTARY SURVEYING. 3 credits
Offered 1, 2, 3. Prerequisite: MS 105. Use of surveyors tape level and transit; traversing and balancing surveys; calculation of areas; topographic mappings: land subdivision; adjustment of instruments; plane table surveys.

CL 226—SURVEYING. 4 credits
Offered 1, 2, 3. Prerequisite: MS 106. Use of instruments; traverses; area; topography; mapping projections; road alignment and cross-sections; field astronomy; land surveys; photogrammetry.

CL 301—FOREST SURVEYING. 3 credits
Offered 2. Prerequisite: CL 223. Topographic mapping; land surveys; timber roads; use of Abney level; mapping and traverse from aerial photographs; stadia measurements; field astronomy; leveling.

CL 303—ELEMENTS OF PHOTOGRAMMETRY. 3 credits.
Offered 1. Prerequisite: CL 226 or CL 301. The application of photogrammetry to civil engineering; flying missions; geometry of aerial photos, scale, tilt, plotting instruments; photo interpretation; mosaics.

CL 323—MATERIALS LABORATORY. 3 credits
Offered 1, 2. Prerequisite: EM 367 or consent of instructor. A study of the principal materials used for engineering purposes with special attention to their mechanical properties and the importance of these properties to the engineer.

CL 326—STATICS OF SIMPLE STRUCTURES. 4 credits
Offered 1, 2, 3. Corequisite EM 367. Application of graphical and analytical methods of statics to structural analysis; moments, shears, reactions, and influence lines for statically determinate structures.

CL 328—WATER SUPPLY SANITATION. 2 credits
Offered 1, 2. The selection and protection of sources of supply with emphasis on the public health aspects of water supply development and distribution. (This course is identical with CL 329, except that the design of water systems is eliminated.)

CL 329—WATER SUPPLY AND TREATMENT. 3 credits
Offered 1, 2. Corequisite: EM 327. Sources of supply, methods of treatment; the design of water systems including supply, treatment, and distribution.

CL 338—STATICALLY INDETERMINATE STRUCTURES. 3 credits
Offered 1, 2. Prerequisites: CL 326, EM 367. Slope and deflection of beams and trusses; redundant systems, continuous beams, frames. Moment area, elastic weight, consistent deflection, slope deflection, moment distribution, and influence line.

CL 368—STRENGTH OF MATERIALS LABORATORY. 1 credit
Offered 1, 2. Corequisite: EM 367. A laboratory course of experiments involving the mechanical properties of engineering materials studied in Strength of Materials.

CL 412—CIVIL ENGINEERING SEMINAR. 1 credit
Offered 1, 2. Prerequisite: Senior standing in Civil Engineering. Reports on current civil engineering literature; discussions of engineering developments; engineering organizations, publications and activity. Turabian, *A Manual For Writers of Term Papers Theses and Dissertations.*

CL 415—CITY AND REGIONAL PLANNING. 3 credits
Offered 1, 2. Prerequisite: Senior engineering classification. Principles of planning. Street systems, neighborhood units, subdivisions. Urban blight and redevelopment. Public housing and Federal aid. Regional planning.

CL 424—SOIL MECHANICS. 3 credits
Offered 1, 2. Prerequisites: GY 210, CL 323. Origin and composition of soils; subsurface exploration; routine testing and classification; permeability of soils; consolidation; settlement analysis; strength theory, shear testing, shearing resistance, stability of slopes.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

CL 429—SEWERAGE. 3 credits
Offered 1, 2. Prerequisites: EM 327 and CL 329 or consent of instructor. The hydraulics and design of storm and domestic sewerage systems, including a study of the elementary principles of sewage treatment.

CL 433—DESIGN IN REINFORCED CONCRETE. 4 credits
Offered 1, 2. Prerequisites: CL 323, CL 338. The principles of reinforced concrete design; design of beams for bending; combined bending and axial loads; bond, shear, and web reinforcing; columns; footings; retaining walls.

CL 435—DESIGN IN METALS AND TIMBER. 4 credits
Offered 1, 2. Prerequisites: CL 323, CL 338. The structural design of metal and timber elements; connections, tension and compression members, members subjected to combined bending and axial loads, light gage members, introduction to plastic design.

CL 439—HIGHWAY LOCATION AND DRAINAGE. 3 credits
Offered 1, 2. Prerequisite: CL 226. Highway location and location surveys; preparations of plans and estimates; design standards, design problems; earthwork computations; surface and subsurface highway drainage.

CL 443—FOUNDATION AND HARBOR STRUCTURES. 3 credits
Offered 1, 2. Prerequisites: CL 424, CY 433. Analysis and design of foundations, harbor structures, retaining walls and sheet piling; soil bearing capacity and the design of footings; pile and pile groups; bridge piers and abutments.

CL 444—CONSTRUCTION METHODS AND ESTIMATING. 3 credits
Offered 1, 2. Prerequisite: Senior classification. The construction industry; estimates; types of construction; construction equipment; construction methods; contracts; law of sales; patents.

CL 450—HIGHWAY CONSTRUCTION AND MATERIALS. 3 credits
Offered 1, 2. Prerequisites: CL 439 and senior standing. Construction equipment and methods; highway materials and their use; construction specifications; pavements; highway maintenance.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

The following courses numbered in the 500's are designed primarily for advanced undergraduates and beginning graduate students and are available for graduate credit with the approval of the departmental advisor or the student's supervisory committee. These are: CL 522, Sanitary Engineering; CL 525, Sewage Treatment; CL 526, Industrial Waste Treatment; CL 527, Public Health Engineering Laboratory; CL 533, Design in Prestressed Concrete; CL 540, Highway Design; CL 543, Sediment Transport Technology; CL 544, Coastal Hydraulics I; CL 545, Coastal Hydraulics II; CL 546, Highway Bridges; CL 548, Industrial and Mill Buildings; CL 562, Traffic Engineering; CL 580, High Speed Computation; with the exception that CL 522 and CL 527 may not be taken for such credit by students having previously taken a sanitary or public health engineering option in work for an undergraduate degree.

CL 522—SANITARY ENGINEERING. 3 credits
Offered 2. Prerequisites: CL 329, CL 429 or consent of instructor. The relation of man to his environment and the principles of engineering methods employed in environmental control in the interest of public health.

CL 525—SEWAGE TREATMENT. 3 credits
Offered 2. Prerequisites: CL 429 or consent of instructor. A study of sewage treatment methods with emphasis upon physical and biochemical changes that occur and the effect of sewage and effluents upon streams.

CL 526—INDUSTRIAL WASTE TREATMENT. 3 credits
Offered 1. Prerequisites: CL 525 or consent of instructor. The problem of disposal of manufacturing wastes and their effects on receiving waters. Detailed studies of representative industrial wastes.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

CL 527—SANITARY ENGINEERING LABORATORY. 3 credits
Offered 2. Prerequisites: CL 329 and CL 429, or consent of instructor. Application of physical, chemical, and biological laboratory procedures to problems in sanitary engineering and environmental sanitation with emphasis on interpretation of data.

CL 533—DESIGN IN PRESTRESSED CONCRETE. 3 credits
Offered 1 and 2. Prerequisite: CL 433. The principles of prestressed concrete, materials used in prestressed concrete, design of beams for bending, post-tensioned and pretensioned beams, bond and diagonal tension, review of existing specifications.

CL 540—HIGHWAY DESIGN. 3 credits
Offered 2. Prerequisite: CL 439 and consent of instructor. Geometric design; design of flexible pavements; design of concrete pavements.

CL 543—SEDIMENT TRANSPORT TECHNOLOGY. 3 credits
Offered 2. Corequisite: MS 420 and consent of instructor. Flow in alluvial channels. Bed-load transport and transport of suspended load. Different approaches and formulae. Stable channels in alluvium. Sand transport in rivers and on seashores. Engineering applications.

CL 544—COASTAL HYDRAULICS I. 3 credits
Offered 1. Corequisite: MS 420 and consent of instructor. Flow in rivers and tidal waterways. Principles of long and short periodic waves. Tides and tidal computations. Wind set-up and storm tides.

CL 545—COASTAL HYDRAULICS II. 3 credits
Offered 2. Prerequisites: MS 354 and consent of instructor. Dynamics of short periodic waves. Forecasting of wave action. Refraction, diffraction and reflection of waves. Wave forces on structures. Principles of sand transport by waves.

CL 546—HIGHWAY BRIDGES. 3 credits
Offered 1. Prerequisites: CL 433, CL 435. The design of highway bridges of reinforced concrete and of steel; study of highway specifications; details of design; study of types of economics.

CL 548—INDUSTRIAL AND MILL BUILDINGS. 3 credits
Offered 2. Prerequisites: CL 433, CL 435. Applications of reinforced concrete and steel design to building structures; flat slab floors; design for continuity; study of building specifications and codes.

CL 562—TRAFFIC ENGINEERING. 3 credits
Offered 1. Prerequisite: CL 439 and approval of instructor. Traffic movement, traffic surveys and studies, control devices and measures, parking and zoning, roadway capacity and design.

CL 580—HIGH SPEED COMPUTATION. 3 credits
Prerequisite: Senior status. Introduction to electronic digital computer programming, including interpretive coding systems. Practice in machine solution (IBM 650) of civil engineering problems with emphasis on matrix algebra techniques.

GRADUATE COURSES

CL 612—PROBLEMS OF NUCLEAR RADIATION IN ENVIRONMETAL SANITATION. 3 credits

CL 621—ADVANCED METAL STRUCTURES. 3 credits

CL 623—ADVANCED REINFORCED CONCRETE. 3 credits

CL 627—ADVANCED SANITARY ENGINEERING. 3 credits

CL 630—PROBLEMS IN SANITATION. 3 credits

CL 638—ANALYSIS OF STATICALLY INDETERMINATE STRUCTURES. 1 to 6 credits

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The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

CL 640—EVALUATION OF ENGINEERING DATA. 3 credits

CL 641—ADVANCED PUBLIC HEALTH ENGINEERING. 3 credits

CL 642—STREAM SANITATION. 3 credits

CL 644—PORTS AND COASTAL STRUCTURES. 3 credits

CL 645—HARBOR HYDRAULICS. 3 credits

CL 647—ADVANCED HIGHWAY ENGINEERING. 3 or 6 credits

CL 648—ADVANCED SOIL MECHANICS. 3 or 6 credits

CL 649—ADVANCED FOUNDATION AND HARBOR STRUCTURES. 3 to 6 credits

CL 650—HYDROLOGY. 3 credits

CL 652—GRADUATE CIVIL ENGINEERING SEMINAR. 1 credit

CL 662—ADVANCED STRUCTURAL LABORATORY. 3 credits

CL 664—ADVANCED STRUCTURAL ANALYSIS. 3 credits

CL 665—ADVANCED STRUCTURAL DESIGN. 3 credits

CL 666—ADVANCED STRUCTURAL DESIGN. 3 credits

CL 668—ADVANCED STRUCTURAL PROBLEMS. 1 to 6 credits

CL 677—MICROBIOLOGY OF WASTE TREATMENT AND RECEIVING WATERS. 3 credits

CL 678—ADVANCED SANITARY ENGINEERING PRACTICE. 3 credits

CL 679—ADVANCED SANITARY ENGINEERING PRACTICE. 3 credits

CL 682—ADVANCED SANITARY ENGINEERING DESIGN. 3 credits

CL 683—ADVANCED SANITARY ENGINEERING DESIGN. 3 credits

CL 684—ATMOSPHERIC POLLUTION. 3 credits

CL 685—AIR POLLUTION SAMPLING AND ANALYSIS. 3 credits

CL 686—MICROMETEOROLOGY OF POLLUTANT DISPERSION. 3 credits

CL 687—AIR POLLUTION CONTROL MEASURES. 3 credits

CL 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

CL 799—DOCTORAL DISSERTATION. 1 to 15 credits

COMMUNICATIONS
GRADUATE COURSES

COM 603—BROADCAST STATION MANAGEMENT. 3 credits

COM 618—RADIO, TELEVISION AND FILM WRITING. 3 credits

COM 623—RADIO PROGRAMMING AND PRODUCTION. 3 credits

COM 625—TELEVISION STAGING AND LIGHTING.

COM 628—RADIO AND TELEVISION IN EDUCATION. 3 credits

COM 630—INDIVIDUAL WORK. 3 credits

COM 699—RESEARCH AND MASTER'S THESIS. 0 to 6 credits

Dairy Science

INSTRUCTIONAL STAFF 1960-61

Fouts, E. L., Head; Becker, R. B.; Krienke, W. A.; Marshall, S. P.; Mull, L. E.; Smith, K. L.; Wilcox, C. J.; Wing, J. M.

DY 211—INTRODUCTION TO DAIRY SCIENCE. 3 credits
Offered 1, 2. Development of dairy science; breeding, selection, feeding and management of dairy cattle; sanitary milk production; composition, properties, processing and analyzing dairy products.

DY 310—DAIRY PRODUCTS PROCESSING. 4 credits
Offered 2. Prerequisite: DY 211. Applications of heat and refrigeration to processing of milk and dairy products, including product movement and packaging. A study-tour of Florida dairy operations required.

DY 311—DAIRY CATTLE MANAGEMENT. 3 credits
Offered 1. Prerequisite: DY 211. Raising dairy replacements, reproduction, judging and type classification, record keeping, selection and culling. Several trips to dairy farms.

DY 312—TECHNICAL CONTROL OF DAIRY PRODUCTS. 3 credits. Offered 2. Prerequisites: DY 211, CY 331. Applications of chemical and physical testing procedures in determining composition and quality of milk and dairy products.

DY 314—MILK PRODUCTION. 3 credits
Offered 2. Prerequisite: DY 211. Feeding and care of cattle for milk production; treatment of factors affecting efficiency of production. Several trips to dairy farms.

DY 318—GRADING AND JUDGING DAIRY PRODUCTS. 2 credits
Offered 1. Corequisite: DY 211. Fundamentals of organolyptic examinations of butter, cheese, ice cream and milk including grading and market classification of dairy products.

DY 416—DAIRY TECHNOLOGY. 3 credits
Offered 2. Prerequisite: DY 312. Detailed composition of milk and dairy products, and the effects of thermal, ionic and physical treatments on product quality.

DY 420—PROBLEMS IN DAIRY TECHNOLOGY. 3 credits
Offered 1, 2, 3. Prerequisite: Permission of instructor. Qualified students may choose an approved problem covering some phase of dairy technology.

DY 421—SEMINAR. 1 credit
Offered 1. Prerequisite: DY 211. Preparation and presentation of technical papers on selected topics in the student's major field. Course is designed for seniors in Dairy Husbandry and Dairy Manufacturers.

DY 422—PHYSIOLOGY OF LACTATION. 2 credits
Offered 2. Prerequisites: DY 211, AL 312. Anatomy and development of the mammary gland; physiology of milk secretion; factors affecting milk yield and composition; practical aspects of udder care and management.

DY 423—APPLIED DAIRY MICROBIOLOGY. 3 credits
Offered 1. Prerequisites: DY 211, BCY 300 or BCY 305 and BCY 307 Microbiological aspects of farm milk production and dairy plant operations, including public health considerations, sanitation and bacteriological standards and commercial bacterial fermentations.

DY 424—DAIRY CATTLE BREEDS. 3 credits
Offered 1. Breed backgrounds and development; evaluation of and programs for improvement through selection and breeding. Trips to breed events when timely.

GRADUATE COURSES

DY 608—METHODS IN ANIMAL RESEARCH. 2 credits

DY 622—ADVANCED DAIRY CATTLE BREEDING. 4 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

DY 623—PROBLEMS IN DAIRY PRODUCTION

DY 625—ADVANCED DAIRY TECHNOLOGY. 4 credits

DY 626—ADVANCED DAIRY PRODUCTS PROCESSING. 4 credits

DY 627—ADVANCED DAIRY MICROBIOLOGY. 4 credits

DY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

Economics

INSTRUCTIONAL STAFF 1960-61

Donovan, C. H., Head; Anderson, M. D.; Blodgett, R. H.; Bradbury, R. W.; Cohen, A.; Dunn, E. S.; Eutsler, R. B.; Fristoe, C. W.; Glick, L. E.; Goffman, I. J.; Cruikshanks, A; Jackson, E. L.; Kafoglis, M. Z.; Karp, J. R.; Koefod, P. E.; Lassiter, R. L.; Shields, M. W.; Sievers, A. M.; Smith, C. D.; Smith, J. G.; Sterba, R. L. A.; Tuttle, F. W.; Webb, J. N.; Wells, J. W.

A departmental major in Economics in the College of Arts and Sciences must include ES 201 and ES 202, ES 321, and 327, and from 12 to 21 elective hours in ES courses approved by the Departmental Advisor.

Courses numbered below 300 are not open to students with 4 BA classification. Courses numbered 300 and higher are open only to students with junior standing. Note, however, specific prerequisites for certain courses.

ES 200—INTRODUCTION TO ECONOMIC PROBLEMS. 3 credits
Offered only through General Extension Division. Designed for teachers of high school social studies, it is a summary of some of the most important topics that confront American citizens in a democracy. Not open to students who have had ES 201-202 and cannot be used for credit in the College of Business Administration.

ES 201—BASIC ECONOMICS. 3 credits
Offered 1, 2, 3. The nature of economics and economic concepts and institutions; emphasis on the accounting, analytical, and policy aspects of national income and product, as well as public finance, money and banking, and international trade.

ES 202—BASIC ECONOMICS. 3 credits
Offered 1, 2, 3. Theories of production, determination of prices and distribution of income in regulated and unregulated industries. Attention is also given to the problems of industrial relations, monopolies, and to comparative economic systems.

ES 203—ELEMENTARY STATISTICS. 3 credits
Offered 1, 2, 3. Prerequisite: MS 205. The statistical method as a tool for analyzing and interpreting data. Concepts of statistical description and inference as applied to business and economic problems.

ES 208—ECONOMIC HISTORY OF THE UNITED STATES. 3 credits
Offered 1, 2. Industrial development of America; exploitation of natural resources; history of manufacturing, banking, trade, transportation, etc; the evolution of industrial centers; the factors contributing to the growth of the United States.

ES 246—CONSUMER ECONOMICS. 3 credits
Offered 1, 2. A study of consumer buying practices, management of personal and family finances, spending the income wisely, consideration of buying guides and consumer protection agencies.

ES 296—INDUSTRY AND TRADE OF LATIN AMERICA. 3 credits
Offered 1. The industrial importance of several Latin American countries; the development of the industries of each country, the volume and types of exports and imports as well as the trade practices and customs of these countries.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

ES 321—MONEY AND BANKING. 3 credits
Offered 1, 2, 3. Prerequisite: ES 201. Money systems and standards; factors determining money supply with emphasis on the role of commercial and central banks and fiscal policy; relationships between money, prices, production and employment.

ES 325 (FI 325)—PUBLIC FINANCIAL POLICY. 3 credits
Offered 1, 2, 3. Prerequisite: ES 201-202. Monetary, fiscal, and debt management policies designed to achieve high levels of employment, economic growth, and price stability.

ES 327—PUBLIC FINANCE. 3 credits
Offered 1, 2, 3. Prerequisite: ES 201. Principles governing expenditures of modern government; sources of revenue; public credit; fiscal policy; principles and methods of taxation and financial administration.

ES 347—PRINCIPLES OF FOREIGN TRADE. 3 credits
Offered 1, 2, 3. Prerequisite: ES 201. Significance of geographic, economic, social, and political influences; current practices and tendencies in foreign trade; products of international commerce; tariffs and other barriers to world trade.

ES 351—ELEMENTS OF TRANSPORTATION. 3 credits
Offered 1, 2, 3. Prerequisite: ES 202. General survey of the significance, characteristics, and major problems of inter-city transportation.

ES 366—BUSINESS AND ECONOMIC STATISTICS. 3 credits
Offered 1, 2, 3. Prerequisites: ES 203, 8 Hrs. of mathematics. Simple, multiple and partial correlation, time series analysis, index numbers, and an introductory treatment of sample survey methods. Application of these tools to business and economic problems.

ES 372—LABOR PROBLEMS. 3 credits
Offered 1, 2, 3. Prerequisite: ES 202. Insecurity, wages and income, hours, substandard workers, industrial conflict, unionism in its structural and functional aspects; personnel management, employee representation, employers' associations; labor legislation, settlement of industrial disputes.

ES 382 (Identical with GPY 382)—PRINCIPLES OF RESOURCE UTILIZATION. 3 credits
Offered 2. Review of the natural and human resources of the United States; an intensive study of the wise and wasteful practices of exploitation and utilization of these resources. A study of the principles of conservation with special reference to the South. Course designated to satisfy resource certification for social studies teachers.

ES 404—GOVERNMENT CONTROL OF BUSINESS. 3 credits
Offered 1. Prerequisite: ES 201-202. The evolution of economic control; chief methods of effectuating governmental control; the relationship between government and non-public utility monopolies; Federal Trade Commission control of competitive practices; a critical appraisal of recent developments in the field of government control.

ES 406—SOCIO-ECONOMIC DYNAMICS OF SCIENCE AND TECHNOLOGY. 3 credits
Offered 1, 2. Development of modern scientific and technological order; impact on socio-economic patterns; the role and conduct of research in the contemporary world; problems and prospects generated by science and technology for business, government and society.

ES 407—ECONOMIC PRINCIPLES AND PROBLEMS. 3 credits
Offered 1, 2, 3. Prerequisite: ES 201-202. An advanced course in economic theory, dealing especially with the theories of production, price determination, and income distribution and their application to a selected list of current economic problems.

ES 408—ECONOMIC PRINCIPLES AND PROBLEMS. 3 credits
Offered 1, 2. The second half of the course ES 407-408.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

ES 409—COMPARATIVE ECONOMIC SYSTEMS. 3 credits
Offered 1, 2, 3. The economics of capitalism, socialism, communism, and fascism. The United States, Soviet Russia, England, Nazi Germany, and Fascist Italy are compared on the basis of industrial production, agriculture, exchange, credit and banking, income distribution, the status of labor, and international trade. Marxian Socialism is also considered briefly.

ES 410—DEVELOPMENT OF MODERN WESTERN ECONOMY. 3 credits
Offered 1,. An analytical study of the economic development of Western Europe and of the United States from the Commercial Revolution to the decline of British dominance in the world of economy.

ES 411—DEVELOPMENT OF MODERN WESTERN ECONOMY. 3 credits
Offered 2. A continuation of ES 410. From the incipient stage of U. S. leadership in the world economy to the present.

ES 421—ADVANCED MONEY AND BANKING. 3 credits
Offered 1. Prerequisite: ES 321, or ES 325. A critical study of the relationships between the Federal Reserve System, the money market, government finance, business fluctuations, and the internal and external value of money in the United States.

ES 429—INTRODUCTION TO BUSINESS CYCLES. 3 credits
Offered 1, 2, 3. Prerequisite: ES 321. An introduction to the principal theories of the business cycle including also a description of the various types of cycles and an examination of the important remedies that have been proposed.

ES 444—OCEAN TRANSPORTATION. 3 credits
Offered 1. Problems in ocean transportation, types of carriages; routes; ports; services of freight carriers; ship brokerage and freight brokerage; passenger carriers; steamship combinations and conferences; ocean freight ratemaking; vessel and cargo documents; regulation of shipping; government aid to ship-building and operation; shipping of Florida ports.

ES 448—FOREIGN TRADE TECHNIQUE. 3 credits
Not offered 1961-62. Principles and practices of exporting and importing; export and import organization; market analysis, packing, customs regulations, insurance, financing, promotion, documents used in exporting and importing.

ES 451—TRAFFIC MANAGEMENT. 3 credits
Offered 1. Prerequisite: ES 351. Organization and management of the traffic function as a component of business organizations. Techniques for traffic management and control. Freight classification, tariffs and rates. Service characteristics and facilities of all types of carriers. Shipping documents, claims procedures, rate negotiations, and procedure before regulatory bodies.

ES 453—TRANSPORT REGULATIONS. 3 credits
Offered 2. Prerequisite: ES 351. Analysis of the development and major problems of transport regulation.

ES 454—PRINCIPLES OF PUBLIC UTILITY ECONOMICS. 3 credits
Offered 1. Prerequisite: ES 201-202. The nature, place and development of public service corporations; types of public control; valuation and rate making; regulation of service, accounts, reports, and securities; combinations; public relations, public ownership.

ES 457—AIR TRANSPORTATION. 3 credits
Offered 2. Significance, development, economic and safety regulation, legal characteristics, international regulations, services and rates, and administration of organized air transport.

ES 458—HIGHWAY TRANSPORTATION. 3 credits
Offered 1. Principles and problems of highway transportation, covering its development and economic impact, the physical facilities of carriage, including highways and their financing, vehicles and terminals; organizational structure and cost characteristics; service characteristics; organization and management of the firm; rates and ratemaking; significant external relations of operators with shippers, with the public through social control, and with other firms and carriers.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

ES 468—ECONOMIC HISTORY IN THE MAKING. 3 credits
Offered 1 and 2. Prerequisites: ES 201 and 202. A course in economic development. Problems, dynamics and policies of economic change and growth in the underindustrialized countries of the modern world. Empirical and theoretical case studies. Area study and formulation of development projects and programs.

ES 469—BUSINESS CYCLES AND FORECASTING. 3 credits
Offered 2. Prerequisite: ES 203. Mathematical and statical theory of the relationships of important variables in the business cycle, such as profits, the price level, wages, national income, employment, savings and investment. Application of this theory to business forecasting.

ES 475—WAGE THEORY AND PRACTICE. 3 credits
Offered 2. A study of the theoretical aspects of wages and wage determination and their relationship to production, distribution, and employment.

ES 476—GOVERNMENT IN RELATION TO LABOR. 3 credits
Offered 1, 2. Factors influencing government's approach to labor problems; labor legislation; wage and hour laws; accident and safety problems; child labor control; government and collective bargaining; political actions of unions.

ES 485—INTERNATIONAL ECONOMIC RELATIONS. 3 credits
Offered 1. The development of international economic policies; geographic, economic, social and political factors underlying contemporary international problems; economic and political methods employed by the leading commercial nations.

ES 541—FINANCIAL INSTITUTIONS AND FISCAL POLICIES OF LATIN AMERICA. 3 credits
Offered 2. Public finances and the money and the banking policies of representative countries of Latin America.

ES 549—INTERNATIONAL FINANCE: FOREIGN EXCHANGE. 3 credits
Prerequisite: ES 321. A study of the theoretical and practical aspects of foreign exchange.

ES 577—PROBLEMS IN FEDERAL FINANCE. 3 credits
Offered 1. Prerequisite: ES 327. Economic effects of public expenditure; war finance; personal income and estate taxes; corporate income and profit taxes; excise taxes, debt problems.

ES 578—PROBLEMS IN STATE AND LOCAL FINANCE. 3 credits
Offered 2. Prerequisite: ES 327. Allocation of functional responsibility; property taxation; sales taxes, highway finance, business taxation; supervision of local finance. Emphasis on Florida problems.

ES 591—MASTERPIECES IN THE SOCIAL SCIENCES. 3 credits
Offered 1. Prerequisite: Senior standing. Identical with HY 591, PCL 591 and SY 591. For advanced students with background work in the social sciences who have approval of their major adviser and the course chairman. Reading of classics in economics, history, political science, sociology and cultural anthropology.

ES 592—MASTERPIECES IN THE SOCIAL SCIENCES. 3 credits
Offered 2. Prerequisite: Senior standing. The second half of the course ES 591-592. Identical with HY 592, PCL 592 and SY 592.

GRADUATE COURSES

For admission to courses listed below, the student must have been admitted to the Graduate School, and normally should have had undergraduate courses in fields pertinent to the graduate courses selected; or where necessary, special arrangements may be made with the approval of the department head.

Though no graduate major may be completed without adequate course work on the 600 or higher level, certain undergraduate courses in economics are available for graduate credit as a part of a candidate's major. These are: ES 404—Government Control of Busi-

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The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

ness; ES 410 and ES 411—Development of Modern Western Economy; ES 453—Transport Regulations; ES 469—Business Cycles; ES 476—Government in Relation to Labor; ES 541—Financial Institutions and Fiscal Policies of Selected Latin American Countries; ES 549—International Finance; Foreign Exchange; ES 577—Problems in Federal Finance; ES 578—Problems in State and Local Finance.

ES 602—COMPARATIVE ECONOMIC SYSTEMS. 3 credits

ES 605—THE DEVELOPMENT OF ECONOMIC THOUGHT. 3 credits

ES 606—THE DEVELOPMENT OF ECONOMIC THOUGHT. 3 credits

ES 608—PRESENT-DAY SCHOOLS OF ECONOMIC THOUGHT I. 3 credits

ES 609—PRESENT-DAY SCHOOLS OF ECONOMIC THOUGHT II. 3 credits

ES 610—THE DEVELOPMENT OF THE AMERICAN ECONOMY TO 1860. 3 credits

ES 611—THE DEVELOPMENT OF THE AMERICAN ECONOMY SINCE 1860. 3 credits

ES 615—ECONOMICS OF BUSINESS DECISIONS. 3 credits

ES 616—ECONOMIC ENVIRONMENT OF BUSINESS. 3 credits

ES 621—MONETARY THEORY. 3 credits

ES 622—MONEY, PRICES, AND BUSINESS CYCLES. 3 credits

ES 632—LOCATION OF ECONOMIC ACTIVITY. 3 credits

ES 637—IMPERFECT COMPETITION. 3 credits

ES 643—THEORY OF INTERNATIONAL TRADE. 3 credits

ES 645—THE ECONOMY OF LATIN AMERICA. 3 credits

ES 650—POLICIES OF FEDERAL TRANSPORTATION COMMISSIONS. 3 credits

ES 651—TRANSPORTATION POLICY. 3 credits

ES 656—PROBLEMS IN PUBLIC UTILITIES. 3 credits

ES 669—PROBLEMS IN STATISTICS AND BUSINESS FORECASTING. 3 credits

ES 670—MATHEMATICAL ECONOMICS I. 3 credits

ES 671—MATHEMATICAL ECONOMICS II. 3 credits

ES 672—ORGANIZED LABOR IN THE UNITED STATES. 3 credits

ES 674—LABOR ECONOMICS. 3 credits

ES 677—GOVERNMENTAL DEBT. 3 credits

ES 678—GOVERNMENTAL FINANCE ADMINISTRATION. 3 credits

ES 679—FISCAL POLICY. 3 credits

ES 685—INTERNATIONAL ECONOMIC RELATIONS. 3 credits

ES 691—NEO-CLASSICAL ECONOMICS. 3 credits

ES 692—NEO-CLASSICAL ECONOMICS. 3 credits

ES 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

ES 799—DOCTORAL DISSERTATION. 1 to 12 credits

Education
General and Cross - Departmental Courses

INSTRUCTIONAL STAFF 1960-61

Ahrens, M. R., Head; Bingham, N. E.; Cate, C. A.; Cooper, J. (on leave); Durrance, C. L.; Green, E. K.; Haines, A. C.; Hass, C. G.; Hilliard, P.; Olson, C.; Spache, G. D.; Wiegman, R. R.; Wiles, K.; Winsor, D. L.

ED 55—THE TEACHING OF HANDWRITING. 1 credit
Offered only by extension. Advanced training in penmanship and methods of teaching handwriting.

ED 260—INTRODUCTION TO EDUCATION. 3 credits
A survey of the various phases of education and teaching.

ED 418—AUDIO-VISUAL MATERIALS OF INSTRUCTION. 3 credits
Offered 1, 2, 3. A general course for teachers at all grade levels. Presents sources and methods of using audio-visual materials of instruction.

ED 459—SUBJECT-AREA PLANNING FOR ELEMENTARY TEACHERS. 3 credits
Offered only by extension. A workshop for the development of individual, city-wide, or county-wide plans for improving programs in language arts, social studies, mathematics, health, art, music, science, etc.

ED 460—SUBJECT-AREA PLANNING FOR SECONDARY TEACHERS. 3 credits
Offered only by extension. A workshop for the development of individual, city-wide, or county-wide plans for improving instruction in secondary school subjects.

ED 500—STUDENT TEACHING, I. 3 credits
Offered 1, 2. Prerequisite: Approval of department head. Supervised observation, participation, and teaching under guidance of a selected classroom teacher.

ED 501—STUDENT TEACHING, II. 3 credits
Offered 1, 2. The second half of the course ED 500. Prerequisite: approval of department head.

GRADUATE COURSES

ED 600—THE SCHOOL CURRICULUM. 3 credits

ED 630—INDIVIDUAL WORK. 3 credits

ED 634—GROUP PROCESS IN EDUCATION. 3 credits

ED 640—COLLEGE CURRICULUM AND TEACHING. 3 credits

ED 641—PRACTICUM IN COLLEGE TEACHING I. 3 credits

ED 642—PRACTICUM IN COLLEGE TEACHING II. 3 credits

ED 649—SUBJECT-AREA PLANNING FOR ELEMENTARY TEACHERS. (Formerly ED 559.) 3 credits

ED 650—PROBLEMS IN CLASSROOM TEACHING: THE CLASSROOM TEACHERS' WORK CONFERENCE. 3 credits

ED 651—AUDIO-VISUAL EDUCATION. 3 credits

ED 652—PRODUCTION AND UTILIZATION OF AUDIO-VISUAL MATERIALS. 3 credits

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The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

ED 653—ORGANIZATION AND OPERATION OF A MATERIALS-OF-INSTRUCTION PROGRAM. 3 credits

ED 655—MENTAL HEALTH IN THE CLASSROOM. 3 credits

ED 657—FLORIDA WORKSHOP: BULLETIN SERIES DIVISION. 6 credits

ED 659—LABORATORY IN CORRECTIVE READING. 6 credits

ED 660—SUBJECT-AREA PLANNING FOR SECONDARY TEACHERS. (Formerly ED 560.) 3 credits

ED 661—PROBLEMS IN READING. 3 credits

ED 663—MUSIC IN THE ELEMENTARY SCHOOL. 2 credits

ED 664—VOCAL MUSIC IN THE SECONDARY SCHOOL. 2 credits

ED 665—ORCHESTRA MUSIC IN THE PUBLIC SCHOOLS. 2 credits

ED 666—BAND MUSIC IN THE PUBLIC SCHOOLS. 2 credits

ED 670—WORKSHOP IN HUMAN RELATIONS IN EDUCATION. 3 credits

ED 682—FIELD LABORATORY FOR FACULTY STUDY OF SPECIAL PROBLEMS. 3 or 6 credits

ED 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

ED 730—PRACTICUM IN SUPERVISION. 15 credits

ED 731—WORK OF THE DIRECTOR OF CURRICULUM. 3 credits

ED 740—PROGRAMS OF TEACHER EDUCATION. 3 credits

ED 741—INTERNSHIP IN TEACHER EDUCATION I. 3 credits

ED 742—INTERNSHIP IN TEACHER EDUCATION II. 3 credits

ED 743—SEMINAR: GENERAL EDUCATION FOR COLLEGES. 3 credits

ED 750—SEMINAR: EDUCATION FOR TODAY. 3 credits

ED 799—DOCTORAL DISSERTATION. 1 to 12 credits

Education - Administration and Supervision

INSTRUCTIONAL STAFF 1960-61

Johns, R. L., Head; Ahrens, M.; Eggert, C. L.; Kimbrough, R. B.; Hass, C. G.; Meyer, H.; Leps, J. M.; Simmons, G. B. Wiegman, R. R.; Wiles, K.

EDA 501—THE TEACHER'S ROLE IN THE ADMINISTRATIVE PROCESS. 3 credits Offered 2. For seniors and graduates who do not expect to take graduate majors in school administration. Cannot be counted for credit by a major in school administration. An analysis of the administrative duties of the classroom teacher and his relationships to the various administrative and supervisory officers of the school system.

GRADUATE COURSES

EDA 600—EDUCATIONAL ORGANIZATION AND ADMINISTRATION. 3 credits

EDA 601—ORGANIZATION AND ADMINISTRATION OF ELEMENTARY SCHOOLS. 3 credits

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The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

EDA 602—ORGANIZATION AND ADMINISTRATION OF SECONDARY SCHOOLS. 3 credits

EDA 603—PUBLIC SCHOOL FINANCE. 3 credits

EDA 604—LEGAL PHASES OF PUBLIC SCHOOL ADMINISTRATION. 3 credits

EDA 605—PUBLIC SCHOOL BUSINESS ADMINISTRATION. 3 credits

EDA 606—SUPERVISED PRACTICE IN SCHOOL ADMINISTRATION. 3 credits

EDA 607—ADMINISTRATION OF TEACHER PERSONNEL. 3 credits

EDA 608—ADMINISTRATION OF PUPIL PERSONNEL. 3 credits

EDA 609—PROBLEMS IN SCHOOL ADMINISTRATION AND SUPERVISION. 3 credits

EDA 610—ORGANIZATION AND ADMINISTRATION OF ADULT EDUCATION. 3 credits

EDA 630—INDIVIDUAL WORK. 3 credits

EDA 631—EDUCATIONAL LEADERSHIP I. 3 credits

EDA 632—EDUCATIONAL LEADERSHIP II. 3 credits

EDA 633—METHODS AND PROBLEMS OF SUPERVISION. 3 credits

EDA 700—SCHOOL SURVEY. 3 credits

EDA 702—THE SCHOOL PLANT. 3 credits

EDA 704—COLLEGE ADMINISTRATION. 3 credits

Education - Elementary

INSTRUCTIONAL STAFF 1960-61

Hilliard, P., Head; Ambrose, E.; Berg, C.; Bodnar, P.; Callis, M. A.; Cooper, J. (on leave); Farris, M. L.; Green, E. K.; Haines, A. C.; Kidd, K.; Liggett, H. R.; McCracken, J. M.; Olson, W.; Sheckles, M.; Spache, G.; Tison, J. P.; Watkins, M.; Wenzel, E.; Young, G. M.

See also General Science, School Art, and Social Studies.

EDE 300—CHILDREN AND LEARNING I. 9 credits
Offered 1, 2. Open to the second semester junior and to the senior in Elementary Education upon the approval of the student's faculty counselor. Study of the total elementary school program and of the language arts: listening, oral, and written expression. Must be scheduled concurrently with EDE 301 and EDE 302; no additional course should be scheduled.

EDE 301—CHILDREN AND LEARNING II. 3 credits
Study of reading and its use in the elementary school curriculum. This course must be scheduled concurrently with EDE 300 and EDE 302.

EDE 302—CHILDREN AND LEARNING III. 3 credits
Study of arithmetic and its use in the elementary school. This course must be scheduled concurrently with EDE 300 and EDE 301.

EDE 400—THE ELEMENTARY SCHOOL TODAY. 3 credits
Offered 1, 2, 3. Prerequisite: Permission of instructor. Purposes, organization, and curriculum of the elementary school. Concurrent with EDS 305 during fall and spring semesters only. For students in special fields desiring certification K-12.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

EDE 405—THE PRACTICUM. 15 credits
Offered 1, 2. Prerequisite: See "Admission to Internship in Any Teacher Education Program" and Approval of the Elementary Staff. Internship in selected classrooms of public schools; special seminars and continuous evaluation of teaching experiences. No other courses may be taken during the internship semester.

EDE 500—SEMINAR IN ELEMENTARY EDUCATION I. 3 credits
Available for graduate major credit. Open to pre-service teachers who have completed an internship and to in-service teachers who are completing an undergraduate degree. Under staff guidance, the mature student has the opportunity to: (1) review the role of the elementary school in society and the teacher's role and (2) to study intensively individual problems encountered during the internship of teaching.

EDE 550—THE TEACHING OF ARITHMETIC. 3 credits
Offered 1, 3. Available for graduate major credit. An analysis of the arithmetic program in grades K-8 with emphasis upon (1) the total arithmetic program (2) arithmetic concepts, symbolism and procedures, and (3) findings of research in arithmetic relative to methods and materials.

EDE 560—TEACHING SCIENCE IN THE ELEMENTARY SCHOOLS. 3 credits
Offered 2, 3. Available for graduate major credit. Emphasis is placed upon science content, methods and materials for elementary school children. A basic course for in-service teachers.

EDE 570—TEACHING OF READING. 3 credits
Offered 1, 2, 3. Available for graduate major credit. A comprehensive study of the problems of teaching reading in the elementary school with implications for teachers K-14.

GRADUATE COURSES

EDE 600—ELEMENTARY SCHOOL CURRICULUM. 3 credits

EDE 601—PRACTICES IN ELEMENTARY EDUCATION I. 3 credits

EDE 602—PRACTICES IN ELEMENTARY EDUCATION II: SOCIAL EDUCATION. 3 credits

EDE 603—EARLY CHILDHOOD EDUCATION I. 3 credits

EDE 604—EARLY CHILDHOOD EDUCATION II. 3 credits

EDE 635—SUPERVISION OF PRE-SERVICE TEACHERS I. 3 credits

EDE 636—SUPERVISION OF PRE-SERVICE TEACHERS II. 3 credits

EDE 660—SCIENCE EDUCATION IN THE ELEMENTARY SCHOOL. 3 credits

EDE 670—LANGUAGE ARTS IN THE ELEMENTARY SCHOOL I. 3 credits

EDE 671—LANGUAGE ARTS IN THE ELEMENTARY SCHOOL II. 3 credits

EDE 675—TRENDS IN THE TEACHING OF READING. 3 credits

EDE 700—PROBLEMS IN ELEMENTARY EDUCATION I. 3 credits

EDE 701—PROBLEMS IN ELEMENTARY EDUCATION II. 3 credits

EDE 702—EVALUATION IN THE ELEMENTARY SCHOOL. 3 credits

EDE 703—SEMINAR IN ELEMENTARY EDUCATION II. 3 or 6 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

Education - Foundations

INSTRUCTIONAL STAFF 1960-61

Baker, M. C., Head; Combs, A. W.; Cumbee, C. F.; Curran, R. L.; Gordon, I. J.; Hines, V. A.; Laird, D. S.; Lewis, H. G.; McLendon, I. R.; Muntyan, B. (on leave); Potter, R. E.; Scates, D. E.; Spears, W. D.; Watkins, L. E.

EDF 245—HUMAN GROWTH AND DEVELOPMENT. 3 credits
Offered 1, 2, 3. A first course in professional education designed to acquaint students with a basic understanding of the nature and dynamics of human behavior. Observation in the P. K. Yonge Laboratory School is required.

EDF 300—HISTORY OF EDUCATION IN THE UNITED STATES. 3 credits
Offered 1, 2, 3. The development of American schools and major problems in American education, with emphasis upon the relationships among the schools, intellectual movements, and social institutions.

EDF 320—SOCIAL FOUNDATIONS OF EDUCATION. 3 credits
Offered 1, 2, 3. Prerequisite: EDF. 245. A study of the educative effects of our social structures, the social values and issues involved in appraising these effects, and the resulting social demands upon the schools.

EDF 341—THE YOUNG CHILD. 3 credits
Offered 2, 3. Prerequisite: EDF 245. Study of growth and development during infancy and early childhood. Laboratory includes observation and participation in nursery school and kindergarten.

EDF 360—ELEMENTARY STATISTICAL METHODS IN EDUCATION. 3 credits
Offered 1, 2, 3. Application of selected techniques of organization and interpretation of educational data.

EDF 410—PHILOSOPHY OF EDUCATION. 3 credits
Offered 1, 2, 3. A critical examination is made of various theories and philosophies of education, their relationships to the democratic principle, and their significance to the evolving system of education in the United States.

EDF 440—DYNAMICS OF HUMAN DEVELOPMENT. 3 credits
Offered 1, 2, 3. Prerequisite: EDF 245. The dynamics of personality development with implications for classroom practice. Particular attention will be given to the development of self in childhood and adolescence.

EDF 442—EDUCATIONAL PSYCHOLOGY. 3 credits
Offered 1, 2, 3. An understanding of the applications of psychological principles to the educational process. It treats such topics as individual differences, principles of learning, transfer of training, and the nature of reasoning.

EDF 450—MEASUREMENT AND EVALUATION IN EDUCATION. 3 credits
Offered 1, 2, 3. Study is made of the basic principles and methods of measurement and evaluation of pupil learning in schools.

GRADUATE COURSES

EDF 600—HISTORY OF EDUCATION. 3 credits

EDF 610—PHILOSOPHICAL FOUNDATIONS OF EDUCATION. 3 credits

EDF 620—SOCIO-ECONOMIC FOUNDATIONS OF EDUCATION. 3 credits

EDF 631—COMPARATIVE EDUCATION. 3 credits

EDF 640—EDUCATIONAL PSYCHOLOGY: HUMAN DEVELOPMENT. 3 credits

EDF 641—EDUCATIONAL PSYCHOLOGY: PERSONALITY DYNAMICS. 3 credits

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The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

EDF 642—EDUCATIONAL PSYCHOLOGY: PROBLEMS. 3 credits

EDF 643—EDUCATIONAL PSYCHOLOGY: LEARNING THEORY. 3 credits

EDF 644—LABORATORY IN CHILD STUDY I. 3 credits

EDF 645—LABORATORY IN CHILD STUDY II. 3 credits

EDF 650—MEASUREMENT AND EVALUATION. 3 credits

EDF 660—EDUCATIONAL STATISTICS. 3 credits

EDF 710—EDUCATION AND MORAL AND SPIRITUAL IDEAS. 3 credits

EDF 711—THEORIES OF MIND. 3 credits

EDF 712—CONTEMPORARY EDUCATIONAL THEORIES. 3 credits

EDF 720—SCHOOL AND SOCIETY. 3 credits

EDF 760—TECHNIQUES OF RESEARCH. 3 credits

EDF 780—SEMINAR IN EDUCATIONAL FOUNDATIONS. 3 credits

Education - Personnel Services

INSTRUCTIONAL STAFF 1960-61

Stripling, R. O., Head; Bristol, L. R.; Combs, A. W.; Cunningham, M. A.; Duncan, H. G.; Gamble, G. W.; Humphreys, J. A.; Foster, C. A.; Landsman, T.; Lane, D.; Laird, D. S.; Putman, I. J.; Soper, D. W.; Spache, G. D.

EDP 300—PRINCIPLES AND PRACTICES FOR TEACHING EXCEPTIONAL CHILDREN. 3 credits
Offered 1, 3. Prerequisite: EDF 245 or equivalent. Incidence, causes, diagnosis, agencies for referral and recommended teaching procedures for the types of exceptional children found in public schools are considered.

EDP 450—THE GUIDANCE ROLE OF THE TEACHER. 3 credits
Offered 2. A consideration of the goals and objectives of guidance, the nature of the concept, the teacher as primary agent in the guidance process, and other guidance agencies within and outside the schools.

EDP 500—MATERIALS AND METHODS FOR TEACHING SLOW LEARNERS. 3 credits
Offered 1, 2, 3. Available for graduate major credit. Curricular materials are developed which can be used to teach children who are mentally handicapped at various maturation levels in the regular classroom, in special classes and schools.

EDP 503—METHODS OF TEACHING CRIPPLED CHILDREN. 3 credits
Offered 3. Available for graduate major credit. An analysis is made of academic difficulties and needs due to specific handicaps. Consideration is given to maintaining a normal school program for each child.

EDP 504—THERAPEUTIC CARE OF CRIPPLED CHILDREN. 3 credits
Offered 3. Available for graduate major credit. The interpretation of medical and psychological reports. Rehabilitation through physical education, physical therapy, and occupational therapy is considered. Vocational guidance is an important phase of this course.

GRADUATE COURSES

EDP 600—TEACHING EXCEPTIONAL CHILDREN. 3 credits

EDP 603—EDUCATION OF THE GIFTED CHILD. 3 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

EDP 610—PRINCIPLES OF GUIDANCE AND PERSONNEL WORK. 3 credits

EDP 611—OCCUPATIONAL AND EDUCATION INFORMATION. 3 credits

EDP 612—TECHNIQUES OF GUIDANCE AND PERSONNEL WORK. 3 credits

EDP 613—PERSONNEL TESTING. 3 credits

EDP 614—CASE STUDIES IN COUNSELING. 3 credits

EDP 616—PRACTICUM IN COUNSELING. 3 credits

EDP 617—PRACTICUM IN COUNSELING. 3 credits

EDP 618—THE ORGANIZATION AND ADMINISTRATION OF GUIDANCE AND PERSONNEL PROGRAMS. 3 credits

EDP 640—STUDENT PERSONNEL SERVICES IN HIGHER EDUCATION. 3 credits

EDP 656—VISITING TEACHER SERVICE. 3 credits

EDP 660—PROBLEMS IN STUDENT PERSONNEL WORK. 1 to 6 credits

EDP 710—THEORIES OF COUNSELING. 3 credits

EDP 715—SEMINAR IN PERSONNEL WORK. 3 credits

EDP 716—INTERNSHIP IN PERSONNEL WORK I. 3 credits

EDP 717—INTERNSHIP IN PERSONNEL WORK II. 3 credits

Education - Secondary

INSTRUCTIONAL STAFF 1960-61

Durrance, C. L., Head; Arnold, L. A.; Bingham, N. E.; Browne, E. B.; Crews, J. W.; Davis, E. A.; Dodson, G. A.; Hass, C. G.; Jones, R. L.; Kidd, K. P.; McGuire, V.; Meyer, H. K.; Moorman, J. H.; Oliva, P. F.; Olson, C. M.; Scrafford, R. A.; Timmerman, E.

EDS 303—THE JUNIOR HIGH SCHOOL. 3 credits
Offered 1. This course deals with the background, organization, content, and appropriate techniques of junior high school education.

EDS 305—THE SECONDARY SCHOOL TODAY. 3 credits
Offered 1, 2, 3. Prerequisite: Admission to the Advanced Professional Sequence in Education. (At least two consecutive hours per week during a regular day must be cleared to permit observation.) Purposes and organization of the secondary school, curriculum, guidance program, application of learning theory, management, evaluating and reporting student progress. Concurrent EDS 305 - EDE 400 section offered for those students enrolled in K-12 program.

EDS 306—LABORATORY IN SECONDARY SCHOOL INSTRUCTION. 3 credits
Offered 1, 2. (To arrange for participation in the Laboratory School the student's total schedule must be approved before registration.) Intensive study of instructional procedures and curriculum planning.

EDS 403—INTERNSHIP: SECONDARY SCHOOL CURRICULUM AND ORGANIZATION. 3 credits
Offered 1, 2. Prerequisite: EDS 305 or permission of instructor. Must be taken concurrently with EDS 404 and EDS 405. Emphasis on: (1) total curriculum, program and structure; (2) professional organizations; (3) professional ethics; (4) classroom management; (5) general testing program; (6) current issues in education.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

EDS 404—INTERNSHIP: METHODS AND MATERIALS FOR CLASSROOM USE. 3 credits
Offered 1, 2. Prerequisite: EDS 305 or permission of instructor. See "Admission To Internship in any Teacher Education Program." Must be taken concurrently with EDS 403 and EDS 405. Present materials and methods in Secondary School teaching fields.

EDS 405—INTERNSHIP: TEACHING IN THE SECONDARY SCHOOL. 9 credits
Offered 1, 2. Prerequisite: EDS 305 or permission of Secondary Department. Must be taken concurrently with EDS 403 and EDS 404. (Available for Graduate major credit only for a student whose baccalaureate degree was in a college other than Education.) Full-time off-campus students teaching for ten weeks in selected schools. Assignment of the intern to the teaching center is made by the Department of Secondary Education. Application must be made by October 1 preceding spring semester internship and by March 1 preceding fall semester internship. Internship in business education during the first semester only. Internship in modern language the second semester only.

EDS 480—ENGLISH IN THE SECONDARY SCHOOL (IDENTICAL WITH EH 480). 3 credits
Offered 1, 3. Prerequisite: C-3, C-5, and one course in English. Designed to help prepare teachers by a study of the content, materials, methods, and objectives of the secondary English program.

EDS 481—THE TEACHING OF SPEECH IN THE SECONDARY SCHOOLS(IDENTICAL WITH SCH 481). 3 credits
Offered 1, 3. Prerequisite: 8 hours of Speech. A practical philosophy of speech education as it functions at the secondary school level; methods of training in the speech arts.

EDS 521—PRINCIPLES OF BUSINESS EDUCATION. 3 credits
Offered 2, 3. Available for graduate major credit. Open only to business teachers and business teacher trainees. The principles, purposes, and program of business education are studied in relation to the total secondary school program.

EDS 550—TEACHING MATHEMATICS IN THE JUNIOR HIGH SCHOOL. 3 credits
Offered 2, 3. Available for graduate major credit. Treats mathematics curriculum; instructional materials; directing the learning of mathematics.

EDS 560—TEACHING SCIENCE IN THE SECONDARY SCHOOL. 3 credits
Offered 1, 3. Available for graduate major credit. Prerequisite: Basic knowledge of both physical and biological sciences. Content, method, materials and approaches to use in teaching science in the secondary school.

EDS 580—TEACHING IN ADULT EDUCATION PROGRAMS. 3 credits
Offered 1, 3. Available for graduate major credit. Characteristics of adult students, preparation of courses for adults, techniques of instruction, and evaluation of adult courses and teaching.

EDS 585—FOREIGN LANGUAGES IN THE SECONDARY SCHOOL (IDENTICAL WITH FLE 586). 3 credits
Offered 3, concurrently with EDS 585 FLE 585. Prerequisite: Inservice status as a teacher. Problems of language learning in high school and junior college. Historic methods. Newer methods, including use of audio-visual materials.

EDS 586—FOREIGN LANGUAGE FOR TEACHERS. (IDENTICAL WITH FLE 586). 3 credits
Offered 3, concurrently with EDS 585, FLE 585. Prerequisite: Inservice status as a teacher. Intensive training to improve oral fluency and instruction in the cultural behavior patterns of the foreign people.

EDS 590—STUDENT ACTIVITIES IN THE SECONDARY SCHOOL. 3 credits
Available for graduate major credit. An exploration of the purposes, phases, and operations of student activities. Designed to assist student activity directors, sponsors, and principals.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

GRADUATE COURSES

EDS 600—FOUNDATIONS OF SECONDARY SCHOOL CURRICULUM. 3 credits

EDS 601—THE JUNIOR HIGH SCHOOL CURRICULUM. 3 credits

EDS 602—THE SECONDARY SCHOOL CURRICULUM. 3 credits

EDS 603—COMMUNITY COLLEGE EDUCATION. 3 credits

EDS 604—CURRICULUM DEVELOPMENT LABORATORY. 3 credits

EDS 605—EVALUATION IN THE SECONDARY SCHOOL PROGRAM. 3 credits

EDS 610—SECONDARY CURRICULUM WORKSHOP. 6 credits

EDS 611—THE CORE PROGRAM IN THE SECONDARY SCHOOL. 3 credits

EDS 620—TEACHING OFFICE MACHINES. 3 credits

EDS 622—TEACHING SECRETARIAL STUDIES. 3 credits

EDS 623—TEACHING BOOKKEEPING AND CONSUMER BUSINESS SUBJECTS. 3 credits

EDS 624—MATERIALS AND METHODS OF TEACHING GENERAL BUSINESS. 3 credits

EDS 625—PROBLEMS IN BUSINESS EDUCATION. 3 credits

EDS 628—WORK EXPERIENCE AND SEMINAR IN BUSINESS EDUCATION. 6 credits

EDS 635—SUPERVISION OF PRE-SERVICE TEACHERS I. 3 credits

EDS 636—SUPERVISION OF PRE-SERVICE TEACHERS II. 3 credits

EDS 640—SOCIAL STUDIES IN THE SECONDARY SCHOOL. 3 credits

EDS 641—ECONOMIC EDUCATION IN THE SECONDARY SCHOOL. 3 credits

EDS 650—MATHEMATICS IN THE SECONDARY SCHOOL. 3 credits

EDS 660—SCIENCE IN THE SECONDARY SCHOOL. 3 credits

EDS 670—LANGUAGE ARTS IN THE SECONDARY SCHOOL. 3 credits

EDS 675—COOPERATIVE EDUCATION. 3 credits

EDS 677—TECHNICAL EDUCATION IN THE JUNIOR COLLEGE. 3 credits

EDS 700—SEMINAR IN SECONDARY EDUCATION. 3 credits

EDS 701—PARTICIPATION IN CURRICULUM DEVELOPMENT PROGRAMS. 3 credits

EDS 705—ADULT EDUCATION IN THE COMMUNITY (JUNIOR COLLEGE). 3 credits

EDS 725—ADMINISTRATION AND SUPERVISION OF BUSINESS EDUCATION. 3 credits

EDS 760—SCIENCE AND MATHEMATICS IN AMERICAN SECONDARY SCHOOLS. (Formerly ED 760). 3 credits

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The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

Education - Vocational Agriculture

INSTRUCTIONAL STAFF 1960-61

Garris, E. W., Head; Loften, W. T.

EDV 303—METHODS IN VOCATIONAL AGRICULTURE. 3 credits
Offered 1, 3. General methods of teaching agriculture are studied.

EDV 306—VOCATIONAL EDUCATION. 3 credits
Offered 2. The development, function, and scope of vocational agriculture, home economics, trade and industrial education, and business education as provided for by Federal Acts of Congress.

EDV 409—SUPERVISED TEACHING IN VOCATIONAL AGRICULTURE. 3 credits
Offered 1. Prerequisites: EDF 245; EDS 305; EDV 303, 306. Practical experience is offered in teaching young farmer and adult farmer classes in vocational agriculture.

EDV 410—SUPERVISED TEACHING IN VOCATIONAL AGRICULTURE. 3 credits
Offered 2. Prerequisites: EDF 245; EDS 305; EDV 303, 306. Teaching experience will involve vocational agriculture in high school classes.

EDV 411—ADULT METHODS IN VOCATIONAL AGRICULTURE. 2 credits
Offered 1. Prerequisites: EDF 245; EDS 305; EDV 303, 306. Problems of course organization, methods of teaching, and supervised farming for young farmers and adult farmers are considered.

EDV 412—COURSE ORGANIZATION IN VOCATIONAL AGRICULTURE. 2 credits
Offered 2. Prerequisites: EDF 245; EDS 305; EDV 303, 306. Special procedures in organizing the course of study, and in teaching regular day classes of vocational agriculture in the high school are studied.

GRADUATE COURSES

EDV 611—HISTORY AND DEVELOPMENT OF AGRICULTURAL EDUCATION. 3 credits

EDV 612—PHILOSOPHY AND ADMINISTRATION OF VOCATIONAL EDUCATION. 3 credits

EDV 665—PROBLEMS IN AGRICULTURAL EDUCATION. 3 credits

EDV 666—PROBLEMS IN AGRICULTURAL EDUCATION. 3 credits

EDV 667—SUPERVISED FARMING PROBLEMS IN AGRICULTURAL EDUCATION. 3 credits

EDV 671—ADULT EDUCATION IN AGRICULTURE. 3 credits

EDV 672—PREPARING COURSE MATERIALS AND COMMUNITY PROGRAMS IN AGRICULTURE. 3 credits

EDV 673—THE SUPERVISION OF VOCATIONAL EDUCATION. 3 credits

Electrical Engineering

INSTRUCTIONAL STAFF 1960-61

Larsen, M. J., Head; Anderson, R. L.; Bailey, R. L.; Bailey, T. L.; Chen, W. H.; Cramer, W. H.; Eisenberg, M. F.; Elgerd, O. I.; Fagen. W. F.; George, T. S.; Hertzler, E. A.; Johnson, W. E.; Kessler, W. J.; Kundel, T.; Latour, M. H.; Lear, W. E.; Muschlitz, E. E.; Nickelson, W. R. D.; O'Malley, J. R.; Peterson, W. W.; Roiser, N. E.; Sashoff, S. P.; Schoonmaker, L. E.; Shaffer, C. V.; Smallwood, M. H.; Smith, E. F.; Sutherland, A. D.; Weil, J.; Wiggins, M. J.; Wing, A. H.; Zetrouer, W. F.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

EL 211—INTRODUCTION TO ELECTRICAL ENGINEERING. 3 credits
Offered 1, 2, 3. Corequisites: PS 206, MS 354. Electrical fundamentals; analysis of basic d-c and a-c circuits; introductory transients; phasors; impedance and admittance.

EL 302—ELECTRICAL CIRCUITS LABORATORY. 1 credit
Offered 1, 2, 3. The laboratory for corequisite course Electric Circuits II, EL 362.

EL 306—ELECTRONICS LABORATORY I. 1 credit
Offered 1, 2. 3. The laboratory for corequisite course EL 346, Electronics I.

EL 313—ELECTRICAL MACHINERY LABORATORY I. 1 credit
Offered 1, 2. The laboratory for corequisite course EL 363, Electrical Machinery I.

EL 323—ELECTRONICS LABORATORY II. 1 credit
Offered 1, 2. The laboratory for the corequisite course EL 373, Electronics II.

EL 341—ELEMENTS OF ELECTRICAL ENGINEERING. 3 credits
Offered 1, 2. Prerequisites: MS 354, PS 206. For engineering students not majoring in electrical subjects. Direct current circuits and machinery; single and polyphase circuits; transforms; rotating machinery and apparatus; elementary electronics.

EL 342—ELEMENTS OF ELECTRICAL ENGINEERING. 3 credits
Offered 1, 2, 3. Prerequisite: EL 341. The second half of the course EL 341-342.

EL 343—ELEMENTS OF ELECTRICAL ENGINEERING. 3 credits
Offered 1, 2. Prerequisites: MS 354, PS 206. For engineering students not majoring in electrical subjects. Direct and alternating current circuits apparatus and machinery; introduction to electronics.

EL 346—ELECTRONICS I. 3 credits
Offered 1, 2, 3. Corequisite: EL 361.
Physical principles of vacuum tubes, semiconductor devices, gas tubes and photo cells; characteristics of electron devices; analysis of basic electronic circuits.

EL 349—ELECTRICAL LABORATORY. 1 credit
Offered 1, 2. Corequisite: EL 341. A laboratory course for engineering students not majoring in electrical subjects. Experimental studies and tests of direct, alternating and electronic circuits and apparatus.

EL 350—ELECTRICAL LABORATORY. 1 credit
Offered 1, 2, 3. Corequisite: EL 342. The second half of the course EL 349-350.

EL 361—ELECTRIC CIRCUITS I. 3 credits
Offered 1, 2, 3. Prerequisite: EL 211. Corequisite: MS 423. Sinusoidal steady-state analysis; resonance; coupled circuits; linear active networks; polyphase circuits.

EL 362—ELECTRIC CIRCUITS II. 3 credits
Offered 1, 2, 3. Prerequisites: EL 361, MS 423. Fourier series and integral; transient analysis; complex frequency concept; Laplace transform; 2-terminal pair networks; impedance matching.

EL 363—ELECTRICAL MACHINERY I. 3 credits
Offered 1, 2. Prerequisite: EL 211. Analysis of ferro-magnetic circuits, direct-current rotating machinery, reactors, single-phase and polyphase transformers.

EL 364—ELECTRIC CIRCUITS III. 3 credits
Offered 1, 2. Prerequisite: EL 362. Study of transmission line theory, including both power and communication lines with and without loss; electric wave filters.

EL 373—ELECTRONICS II. 3 credits
Offered 1, 2. Prerequisite: EL 346. The second half of the series EL 346-373.

EL 405—COMMUNICATION ENGINEERING LABORATORY I. 2 credits
Offered 1, 2. The laboratory for the corerequisite course EL 465, Communication Engineering I.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

EL 406—COMMUNICATION ENGINEERING LABORATORY II. 2 credits
Offered 1, 2. The laboratory for the corequisite course EL 466, Communication Engineering II.

EL 407—ELECTRIC MACHINERY LABORATORY II. 1 credit
Offered 1, 2. The laboratory for the corerequisite course EL 467, Electrical Machinery II.

EL 408—ELECTRICAL POWER LABORATORY. 2 credits
Offered 1 or 2. The laboratory for the corequisite course EL 468, Power Systems.

EL 415—PULSE CIRCUITRY LABORATORY. 1 credit
Offered 1, 2. The laboratory for the corequisite course EL 452, Pulse Circuitry.

EL 416—MICROWAVE LABORATORY. 1 credit
Offered 1, 2. The laboratory for the corequisite course EL 462, Microwave Techniques.

EL 441—ELECTRICAL ENGINEERING SEMINAR. 1 credit
Offered 1, 2. Prerequisite: at least 21 credits in courses in Electrical Engineering.

EL 446—POWER DISTRIBUTION ENGINEERING. 3 credits
Offered 1 or 2. Prerequisite: EL 364. Study of existing low-voltage distribution systems, their protection and metering.

EL 452—PULSE CIRCUITRY. 3 credits
Offered 1, 2. Prerequisite: EL 373. Nonlinear circuitry and pulse systems; nonlinear wave shaping; generation of nonsinusoidal waves; counter and computer circuits.

EL 462— MICROWAVE TECHNIQUES. 3 credits
Offered 1, 2. Prerequisite: EL 465. Methods of generating, transmitting and receiving centimeter microwaves.

EL 464—INTRODUCTION TO ELECTROMAGNETIC THEORY. 3 credits
Offered 1, 2. Prerequisite: EL 362. An introductory presentation of vector analysis and the fundamentals of electromagnetic fields and waves for engineering applications.

EL 465—COMMUNICATION ENGINEERING I. 3 credits
Offered 1, 2. Prerequisite: EL 373. Component parts of systems of electrical communications including vacuum tube amplifiers, transistor amplifiers, oscillators, modulators, detectors and d-c power supplies.

EL 466—COMMUNICATION ENGINEERING II. 3 credits
Offered 1, 2. Prerequisite: EL 465. Propagation of radio waves, antennas, complete communication systems.

EL 467—ELECTRICAL MACHINERY II. 3 credits
Offered 1, 2. Prerequisites: EL 362 and EL 363. Fundamentals of alternating-current machinery and controls.

EL 468—POWER SYSTEMS. 3 credits
Offered 1 or 2. Prerequisites: EL 364 and EL 467. Power system steady-state and transient stability, load frequency control system protection.

EL 472—ELECTRICAL ENGINEERING PROBLEMS. 3 credits
Offered 1, 2. Prerequisites; EL 464. Methods of engineering analysis; selected problems in electrical engineering with emphasis on systems and controls.

EL 475—LINEAR CONTROL SYSTEM THEORY. 3 credits
Offered 1, 2. Prerequisites: EL 363, EL 364, EL 373. Analysis of linear control systems. Definition of system transference. Nyquist and Bode approaches of analysis; stability; problems.

EL 476—ADVANCED INDUSTRIAL ELECTRONICS. 3 credits
Offered 2. Prerequisite: EL 373. Advanced study of industrial applications of electronic devices.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

EL 493—ELECTRICAL DESIGN AND EXPERIMENTAL PROCEDURE. Variable credit
Offered 1, 3. Prerequisite: Approval of instructor. Special projects are studied and reports prepared thereon.

EL 494—ELECTRICAL DESIGN AND EXPERIMENTAL PROCEDURE. Variable credit
Offered 2. The second half of the course EL 493-494.

EL 503—TRANSISTOR ELECTRONICS LABORATORY. 1 credit
Offered 1, 2. The laboratory for the corequisite course EL 550, Transistor Electronics.

EL 520—NUCLEAR ENGINEERING INSTRUMENTATION. 3 credits
Offered 2. Prerequisite: NR 400. Pre- or corequisite: EL 465. Counting circuits and other devices for the measurement of radioactivity; control systems for nuclear reactors; linear accelerators and other high-energy machines.

EL 550—TRANSISTOR ELECTRONICS. 2 credits
Offered 1, 2. Pre- or corequisite: EL 465. The electrical characteristics and circuit application of transistors.

EL 580—COMPUTER PRINCIPLES. 3 credits
Offered 1 or 2. Prerequisite: Approval of instructor. Electrical analog and digital computer components and systems; programming techniques; practice problems.

GRADUATE COURSES

EL 631—ADVANCED ELECTRICAL MEASUREMENT. 3 credits

EL 635—ELECTRICAL NETWORK SYNTHESIS. 3 credits

EL 636—ELECTRIC NETWORK SYNTHESIS. 3 credits

EL 637—TRANSIENTS IN LINEAR SYSTEMS. 3 credits

EL 641—NONLINEAR CIRCUITS. 3 credits

EL 645—ADVANCED ELECTRON TUBE CIRCUITS. 3 credits

EL 646—ADVANCED ELECTRON TUBE CIRCUITS. 3 credits

EL 650—PHYSICAL ELECTRONICS. 3 credits

EL 652—THEORY OF VACUUM TUBES. 3 credits

EL 653—THEORY OF MICROWAVE VACUUM TUBES. 3 credits

EL 654—THEORY OF COMMUNICATION. 3 credits

EL 655—ELECTROMAGNETIC FIELDS AND WAVES. 3 credits

EL 656—ELECTROMAGNETIC FIELDS AND WAVES. 3 credits

EL 657—BOUNDARY VALUE PROBLEMS. 3 credits

EL 659—STATISTICAL COMMUNICATION THEORY. 3 credits

EL 661—LOGIC AND DESIGN OF DIGITAL CONTROL CIRCUITS. 3 credits

EL 671—ADVANCED ELECTRICAL MACHINERY. 3 credits

EL 673—CONTROL SYSTEM THEORY I. 3 credits

EL 674—CONTROL SYSTEM THEORY II. 3 credits

EL 681—ELECTRIC POWER SYSTEMS. 3 credits

EL 682—ELECTRIC POWER SYSTEMS. 3 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

EL 691—SPECIAL TOPICS IN ELECTRICAL ENGINEERING. Variable credit

EL 692—SPECIAL TOPICS IN ELECTRICAL ENGINEERING. Variable credit

EL 695—GRADUATE SEMINAR. 1 credit

EL 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

EL 799—DOCTORAL DISSERTATION. 1 to 12 credits

Engineering Graphics

INSTRUCTIONAL STAFF 1960-61

Jacunski, E. W., Head; Abbey, W. R.; Garrett, R. E.; Kephart, R. C.; Klement, F. W.; Knight, C. W.; Phelps, G. O.; Smith, J. H.; Stockstill, R. E.; Twigg, J. F.; Watts, E. H.; Williams, H. B.

EGR 180—COLLEGE OF ENGINEERING; ENGINEERING CONCEPTS AND STUDIES 1 credit
Offered 1, 2. 3. Corequisites: EGR 181 or EGR 185. Required of all engineering students. Discussions of all fields of engineering by departmental staff, selected members of College of Engineering faculty, and professional engineers.

EGR 181—ENGINEERING GRAPHICS I. 2 credits. 5 hours drawing
Offered 1, 2, 3. Pre- or corequisite: MS 205 and EGR 180. An introduction to the fundamental principles of orthographic projection and Descriptive Geometry as used in the making and interpretation of engineering drawings.

EGR 182—ENGINEERING GRAPHICS II. 3 credits. 1-5 hours drawing
Offered 1, 2, 3. Prerequisite: EGR 181. Applications of orthographic projection and Descriptive Geometry, including an introduction to other graphical processes, to the solutions of engineering problems.

EGR 185—GRAPHICAL PROCESSES. 3 credits. 1-5 hours drawing
Offered 1, 2, 3. Pre- or corequisite: MS 205 and EGR 180. Application of graphical methods to the solutions of problems. Available only to new or transfer students receiving credit or having a sound background in Engineering Drawing, but none in Descriptive Geometry or Graphics.

EGR 282—MECHANISM AND KINEMATICS. 3 credits
Offered 1, 2. 3. Prerequisite: EGR 182; Corequisite: PS 205. A study of the mechanisms used in machinery and the analysis of the motions obtained.

EGR 321—ADVANCED GRAPHICS. 3 credits. 2-3 hours drawing
Offered 2. Prerequisite: EGR 182 or EGR 185. Pre- or corequisite: MS 353. Advanced graphical methods for the solution of engineering problems. Scale construction, elementary alignment charts, graphic mathematics—including graphic calculus, projective geometric constructions, graphical treatment of empirical data by the use of special plotting paper, etc.

Engineering Mechanics

INSTRUCTIONAL STAFF 1960-61

Sawyer, W. L. Head; Baldwin, W. M.; Belz, D. J.; Edson, C. G.; Ekstrom, R. E.; Griffith, J. E.; Herbert, R. E.; Hill, C. C.; Hrubecky, H. F.; Huang, T. C.; Mathews, A.; Nash, W. A.; Neff, T. O.; Uldrick, J. P.; Trubert, M.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

EM 313—FLUID MECHANICS. 4 credits
Offered 1, 2, 3. Prerequisites: EM 365, MS 354. Statics and dynamics of compressible and incompressible fluids. Flow through measuring devices and pipes and around immersed bodies. Bernoulli's theorem, viscosity effects, surface and form resistance similarity and dimensional analysis, impulse-momentum principle.

EM 314—HYDRAULIC ENGINEERING. 3 credits
Prerequisite: EM 313 or EM 327. Adiabatic charts aerological soundings, and precipitation. Groundwater and flow nets. Pipe in series and parallel. Uniform and critical depth in prismatic channels. Local phenomena. Gradually varied flow. Channel design.

EM 327—HYDRAULICS. 4 credits
Offered 1, 2. Prerequisites: EM 365, MS 354. Thermodynamics and properties of fluids. Hydrostatics and manometry. Flow measurements. Dimensional analysis and similitude. Pipe flow and minor losses. Impulse-momentum and hydraulic machinery. Open channel flow and local phenomena.

EM 365—ENGINEERING MECHANICS-STATICS. 3 credits
Offered 1, 2, 3. Prerequisites: PS 205, EGR 182; Corequisite: MS 354. Principles of statics; resultants and equilibrium of force systems; trusses containing two-force members; structures containing three-force members; friction; centroids; moments of inertia.

EM 366—ENGINEERING MECHANICS-DYNAMICS. 3 credits
Offered 1, 2, 3. Prerequisites: EM 365, MS 354. Dynamics of particles and rigid bodies for rectilinear translation, curvilinear translation, rotation and plane motion; mass moment of inertia; work and energy; impulse and momentum.

EM 367—STRENGTH OF MATERIALS. 3 credits
Offered 1, 2, 3. Prerequisites: EM 365, MS 354. Tension, compression and shear, stresses and strains; combined stresses; Mohr's circle; riveted joints; torsion; bending moments; stresses, and deflection of beams eccentric loading; columns.

EM 369—APPLIED MECHANICS FOR CHEMICAL ENGINEERS. 3 credits
Offered 1. Prerequisite: EM 365, MS 354. Similar to EM 367, with special emphasis on pressure vessels.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

EM 536—INTERMEDIATE DYNAMICS. (Identical with PS 505). 3 credits
Prerequisites: Two years of college physics or equivalent, and MS 521. The motion of particles and rigid bodies under constant and variable forces. An introduction to the equations of Hamilton and Lagrange.

EM 546—FUNDAMENTAL VIBRATION ANALYSIS. 3 credits
Prerequisites: EM 366, EM 367. Undamped free and forced vibrations of systems of one degree of freedom, damped vibrations. Vibrations of systems with more than one degree of freedom. Shock and vibration isolation. Instruments for vibration analysis.

EM 547—ADVANCED EXPERIMENTAL METHODS IN MECHANICS. 2 credits
Corequisite: EM 546 or AN 431. Principles of vibrations measuring instruments. Velocity pickups, accelerometers, dynamic strain indicators. Use of indicating and recording instruments. Laboratory investigations of steady-state and transient phenomena.

EM 560—MECHANICAL PROPERTIES OF MATERIALS. 3 credits
Offered 1. Prerequisites: EM 367, MS 420, PS 303 or 320. An introduction to the science of engineering materials. Application of soild state mechanics to mechanical properties of materials including elasticity, plasticity, fracture, creep and relaxation.

EM 564—ADVANCED STRENGTH OF MATERIALS. 3 credits
Offered 1. Prerequisite: EM 367. Analysis of stress and strain in deformable bodies. Unsymmetrical bending; curved beams, introductory theory of plates, energy methods.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

EM 565—ADVANCED STRENGTH OF MATERIALS. 3 credits
Offered 2. Prerequisite: EM 564. A continuation of EM 564. Beams on elastic foundations; introductory theory of shells; instability; inelastic theory; introductory plasticity; creep.

GRADUATE COURSES

EM 633—ADVANCED HYDRAULIC ENGINEERING. 3 credits

EM 634—HYDRAULIC MEASUREMENTS. 3 credits

EM 636—THEORY OF INVISCID FLUID FLOW. 3 credits

EM 637—THEORY OF VISCOUS FLUID FLOW. 3 credits

EM 638—BOUNDARY LAYER THEORY. 3 credits

EM 639—HIGH SPEED GAS DYNAMICS I. 3 Credits

EM 640—HIGH SPEED GAS DYNAMICS II. 3 credits

EM 641—NON-LINEAR MECHANICS. 3 credits

EM 644—ADVANCED DYNAMICS. 3 credits

EM 646—ADVANCED VIBRATION ANALYSIS. 3 credits

EM 649—EXPERIMENTAL STRESS ANALYSIS. 3 credits

EM 651—THEORY OF ELASTICITY. 3 credits

EM 652—THEORY OF ELASTICITY. 3 credits

EM 660—PROPERTIES OF MATERIALS. 3 credits

EM 667—THEORY OF ELASTIC STABILITY. 3 credits

EM 671—THEORY OF PLASTICITY. 3 credits

EM 672—THEORY OF PLATES. 3 credits

EM 673—THEORY OF SHELLS. 3 credits

EM 675—NUMERICAL METHODS OF ENGINEERING ANALYSIS. 3 credits

EM 688—MECHANICS OF CONTINUOUS MEDIA. 3 credits

EM 692—SPECIAL TOPICS IN ENGINEERING MECHANICS. Variable credit

EM 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

EM 799—DOCTORAL DISSERTATION. 1 to 12 credits

English

INSTRUCTIONAL STAFF 1960-61

Robertson, C. A., Head; Ackerman, R. D.; Baughan, D. E.; Bigelow, G. E.; Boone, L. P.; Bowdre, P. H.; Bowers, R. H.; Bryan, R. A.; Clark, W. A.; Conner, F. W.; Cox, E. H.; Cutler, R. J.; Derrick, C.; Fain, J. T.; Fogle, S. F.; Gehan, F. E.; Hart, T. A. E.; Herbert, T. W.; Holden, E. S.; Kirkland, E. C; Lambert, R. E.; Lisca, P.; Long, S. G.; Lytle, A. N.; Miles, G. S.; Morris, A. C.; Murphree, A. A.; Oras, A.; Penrod, J. A.; Pyles, T.; Ruff, W.; Scrimgeour, G. J.; Starr, N. C.; Stryker, D.; Vowles, R. B.; Warfel, H. R.; Wilkinson, C. W.; Wise, J. H.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

Students intending to major in English should, as soon as possible, consult with a departmental adviser and plan their programs.

The Departmental Major: For the departmental undergraduate major the following courses, or their equivalents, are required: EH 217-218 and one semester of Shakespeare (EH 401 or EH 402). EH 201 or a more advanced course in world literature is strongly recommended. At least half of the major program should be in courses numbered 300 or above, and at least six hours should be selected from the following studies: EH 495, EH 496, EH 497, EH 498, EH 501, EH 502, EH 506, EH 509. Students majoring in English are advised to include EH 506 (History of the English Language), especially those anticipating graduate study in English. EH 255 and EH 356 may not be counted for credit towards the minimum departmental major. A foreign language should be elected at least as early as the sophomore year.

In exceptional cases, specified departmental requirements, including prerequisites, may be waived by consent of the departmental adviser.

English Improvement Service: The Department offers help to students and staff members having problems in written English. The solution may be through consultation with an English staff member, through supervised individual work, or through recommended course work.

EH 201—INTRODUCTION TO WORLD LITERATURE. 3 credits
Offered 1, 2. Prerequisite: C-3. An introductory course on the backgrounds of English language and literature, with readings from selected masterpieces of the ancient, medieval, and renaissance worlds, from Homer to Cervantes.

EH 209—THE SHORT STORY. 2 credits
Offered 1. Prerequisite: C-3. The understanding and appreciation of the short story as a literary type. Lectures, readings.

EH 212—ADVANCED COMPOSITION. 2 credits
Offered 1, 2. Prerequisite: C-3. Advanced studies in composition and précis writing. Designed to meet the needs of students desiring additional training in writing and special preparation for professional or graduate study.

EH 215—INTRODUCTION TO AMERICAN LITERATURE. 3 credits
Offered 1, 2. Prerequisite: C-3. A selection of major American writers from Benjamin Franklin to Robert Frost. Emphasis is placed on understanding and critical appreciation rather than on literary history.

EH 217—INTRODUCTION TO ENGLISH LITERATURE: From the Beginnings to the End of the Seventeenth Century. 3 credits
Offered 1, 2. Prerequisite: C-3. Critical study of masterpieces embodying the main lines of literary tradition in the period indicated.

EH 218—INTRODUCTION TO ENGLISH LITERATURE: From the Beginning of the Eighteenth Century to the Present. 3 credits
Offered 2. Prerequisite: C-3. Second half of the course EH 217-218.

EH 225—IDEAS AND THEMES IN LITERATURE. 3 credits
Prerequisite: C-3. Readings in selected masterpieces of literature, with stress upon comparative analysis of the literature and its cultural backgrounds.

EH 235—WORD STUDY. 2 credits
Offered 1, 2. Designed to give the student a view of the English language in its relationship to the other languages of the Indo-European family and of the manifold sources of its word stock.

EH 255—BUSINESS COMMUNICATIONS. 3 credits
Offered 1, 2. Prerequisite: C-3. Instruction and practice on business letters and short reports; introduction to business and professional publications.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

EH 306—MODERN ENGLISH GRAMMAR. 3 credits
Offered 1, 2. Prerequisite: C-3 and C-5. A systematic review of current English grammar, including attention to functional aspects of sentence structure, punctuation, and other problems of the mechanics of composition.

EH 310—THE AMERICAN NOVEL. 2 credits
Offered 2. Prerequisite: C-3 and C-5. The history of the American novel. Reading of representative novels by major American writers. Lectures, reports.

EH 318—THE LITERATURE OF THE SOUTH. 3 credits
Prerequisite: C-3 and C-5. The poetry and prose written by Southerners or reflecting the life in the region. Chief emphasis on the nineteenth and twentieth centuries.

EH 327—IMAGINATIVE WRITING. 2 credits
Offered 1, 2. Prerequisite: C-3 and C-5. Designed to help the student who desires guidance in developing his capacity for original work. Group discussion, individual conferences, many papers.

EH 356—REPORT WRITING. 3 credits
Offered 1, 2. Prerequisite: C-3 and C-5. For professional and scientific students needing specialized training in the writing of technical reports, professional papers, and research investigations.

EH 361—THE ENGLISH NOVEL. 2 credits
Offered 1. Prerequisite: C-3. May be taken for credit without EH 362. The development of the novel from earlier forms; the great novelists of the eighteenth century.

EH 362—THE ENGLISH NOVEL. 2 credits
Offered 2. Prerequisite: C-3. The second half of the course EH. 361-362. May be taken for credit without EH. 361. The great novelists of the nineteenth century.

EH 363—CONTEMPORARY LITERATURE: DRAMA. 3 credits
Offered 2. Prerequisite: C-3 and C-5. Recent and contemporary drama, with emphasis upon such major English and American playwrights as Shaw and Eugene O'Neill. The work of Ibsen and other Continental writers will be treated briefly.

EH 365—CONTEMPORARY LITERATURE: FICTION. 3 credits
Offered 1, 2. Prerequisite: C-3 and C-5. The most important British and American writers of twentieth-century prose fiction, with major emphasis upon recent novelists.

EH 366—CONTEMPORARY LITERATURE: POETRY. 3 credits
Offered 1. Prerequisite: C-3 and C-5. Reading, critical interpretation, and discussion of modern British and American poetry, with chief emphasis upon recent poetry.

EH 399—PRACTICAL CRITICISM. 3 credits
Offered 1. Prerequisite: C-3 and C-5. An intensive study of selected narratives, poems, and dramas, leading towards a critical awareness of the nature of literary art.

EH 401—SHAKESPEARE. 3 credits
Offered 1, 2. Prerequisite: C-3 and C-5, and one course in English or Speech. Devoted chiefly to the romantic comedies and the history plays. As an aid to the reading of Shakespeare, some of the most important features of the Elizabethan stage and drama are treated briefly.

EH 402—SHAKESPEARE. 3 credits
Offered 1, 2. Prerequisite: C-3, C-5, and one course in English or Speech. The great tragedies will be studied, notably *Hamlet, Othello, King Lear, Macbeth,* and *Anthony and Cleopatra.*

EH 407—INTRODUCTION TO FOLKLORE. 3 credits
Prerequisite: C-3 and C-5. Reading, discussion, and critical study of folk tales, legends, proverbs, etc. Their origin, spread, and influence on various literatures. Their utilization by teachers and creative artists.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

EH 408—BALLADS AND FOLKSONGS. 3 credits
Offered 2. Prerequisite: C-3 and C-5. English and Scottish popular ballads; their origin, development, and spread to America. American folksongs; their nature, development, and place as social and folk documents.

EH 464—WORLD DRAMA. 3 credits
Offered 1. Prerequisite: C-3 and C-5. A survey of world drama from its origins down to the rise of realism. Some of the more important plays in the repertorium of dramatic literature, from Aeschylus to Turgenev, will be read, analyzed, and discussed.

EH 480—ENGLISH IN THE SECONDARY SCHOOL. (Identical with EDS 480). 3 credits
Offered 1. Prerequisite: C-3, C-5, and one course in English. Designed to help prepare teachers by a study of the content, materials, methods, and objectives of the secondary English program.

EH 489—HONORS SEMINAR IN ENGLISH. 3 credits
Offered 1. Prerequisite: Permission of a departmental adviser. Open to selected English majors and to approved applicants from other departments. Intensive study by the seminar method of a limited topic in English or American literature.

EH 490—HONORS SEMINAR IN ENGLISH. 3 credits
Offered 2. Prerequisite: EH 489. Second half of the course EH 489-490, including the preparation of an essay on the work of the entire year.

EH 491—CHILDREN'S LITERATURE. 3 credits
Offered 1, 2. Prerequisite: C-3 and C-5. Designed to arouse a genuine interest in children's books and to aid the student in obtaining a critical knowledge of the literature.

EH 492—LITERATURE FOR THE ADOLESCENT. 3 credits
Offered 2. Prerequisite: C-3, C-5, and one course in English. A study of the types of literature read by adolescents, with emphasis upon the criteria for the choice of good books and upon developing a familiarity with the many books available.

EH 493—GREAT BOOKS OF THE WESTERN WORLD. 3 credits
Offered 1. May be taken for credit without EH 494. Prerequisite: C-3 and C-5. Many of the great classics which have germinated our culture and moulded modern thought are read, analyzed, discussed. EH 493 covers the period from the classical past to the Renaissance.

EH 494—GREAT BOOKS OF THE WESTERN WORLD. 3 credits
Offered 2. The second half of the course EH 493-494. May be taken for credit without EH 493. Prerequisite: C-3 and C-5. Covers the period from the Renaissance to modern times.

EH 495—MAJOR WRITERS OF THE RENAISSANCE. 3 credits
Offered 2. Prerequisite: C-3, C-5, and one course in English. Selections from the best works of principal writers other than Shakespeare, with special emphasis on the poetry of Milton.

EH 496—MAJOR WRITERS OF THE NEOCLASSIC PERIOD. 3 credits
Offered 2. Prerequisite: C-3, C-5, and one course in English. Selections from the best works of such writers as Dryden, Congreve, Addison, Swift, Pope, Fielding, Johnson, and Boswell.

EH 497—MAJOR WRITERS OF THE ROMANTIC PERIOD. 3 credits
Offered 1. Prerequisite: C-3, C-5, and one course in English. Selections from the best work of such writers as Wordsworth, Coleridge, Scott, Lamb, Byron, Shelley, and Keats.

EH 498—MAJOR WRITERS OF THE VICTORIAN ERA. 3 credits
Offered 1. Prerequisite: C-3, C-5, and one course in English. Selections from the best works of such writers as Tennyson, Browning, Carlyle, Ruskin, Arnold, Dickens, and Thackeray.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

EH 501—AMERICAN LITERATURE. 3 credits
Offered 1. May be taken for credit without EH 502. Prerequisite: C-3, C-5, and one course in English. Available for graduate major credit. A critical and historical survey of American literature from 1607 to 1865.

EH 502—AMERICAN LITERATURE. 3 credits
Offered 2. The second half of the course EH 501-502. May be taken for credit without EH 501. Prerequisite: C-3, C-5, and one course in English. Available for graduate major credit. Covers the period from 1865 to the present.

EH 506—HISTORY OF THE ENGLISH LANGUAGE. 3 credits
Offered 1, 2. Prerequisite: C-3, C-5, and one course in English or in a foreign language. Available for graduate major credit. The nature, origin, and development of the English language, with special stress upon structural and phonetic changes and upon the principles which govern modern usage.

EH 509—CHAUCER. 3 credits
Offered 1. Prerequisite: C-3, C-5, and one course in English. Available for graduate major credit. Reading and critical study of the *Canterbury Tales;* Chaucer's English and its place in the development of the language.

EH 530—INDIVIDUAL WORK IN CREATIVE WRITING. 3 credits
Offered 1, 2. Prerequisite: EH 327 or equivalent, consent of instructor, and approval of department head. Available for graduate major credit. Individual projects in creative composition for qualified students interested in the writing of fiction or poetry as art forms.

GRADUATE COURSES

EH 600—BIBLIOGRAPHY AND METHODS OF RESEARCH. No credit

EH 605—DRAMA OF THE RESTORATION AND 18TH CENTURY. 3 credits

EH 610—CHAUCER. 3 credits

EH 611—OLD ENGLISH. 3 credits

EH 612—MIDDLE ENGLISH. 3 credits

EH 613—THE RENAISSANCE IN ENGLAND. 3 credits

EH 614—THE RENAISSANCE IN ENGLAND. 3 credits

EH 615—MILTON. 3 credits

EH 617—SPENSER. 3 credits

EH 619—ELIZABETHAN DRAMA. 3 credits

EH 627—THE CRAFT OF WRITING. 3 credits

EH 628—THE CRAFT OF WRITING. 3 credits

EH 630—INDIVIDUAL WORK. 3 credits

EH 633—ENGLISH LITERATURE OF THE 18TH CENTURY. 3 credits

EH 634—ENGLISH LITERATURE OF THE 18TH CENTURY. 3 credits

EH 641—BEOWULF. 3 credits

EH 643—THE ENGLISH ROMANTIC PERIOD. 3 credits

EH 644—THE ENGLISH ROMANTIC PERIOD. 3 credits

EH 653—ENGLISH LITERATURE OF THE VICTORIAN PERIOD. 3 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

EH 654—ENGLISH LITERATURE OF THE VICTORIAN PERIOD. 3 credits

EH 665—LITERARY CRITICISM, HISTORICAL AND ANALYTICAL. 3 credits

EH 666—LITERARY CRITICISM, HISTORICAL AND ANALYTICAL. 3 credits

EH 669—ENGLISH PROSODY. 3 credits

EH 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

EH 735—SEMINAR IN RESTORATION AND 18TH-CENTURY LITERATURE. 3 credits

EH 745—SEMINAR IN ROMANTICISM. 3 credits

EH 750—THE ENGLISH LANGUAGE SINCE 1400. 3 credits

EH 753—SEMINAR IN LINGUISTICS. 3 credits

EH 755—SEMINAR IN MEDIEVAL LITERATURE. 3 credits

EH 761—SEMINAR IN SHAKESPEARE. 3 credits

EH 763—SEMINAR IN ENGLISH RENAISSANCE LITERATURE. 3 credits

EH 771—SEMINAR IN VICTORIAN LITERATURE. 3 credits

EH 781—SEMINAR IN NEW ENGLAND TRANSCENDENTALISM. 3 credits

EH 783—SEMINAR IN AMERICAN PROSE. 3 credits

EH 787—SEMINAR IN AMERICAN POETRY. 3 credits

EH 799—DOCTORAL DISSERTATION. 1 to 12 credits

Entomology

INSTRUCTIONAL STAFF 1960-61

Creighton, J. T., Head; Blanton, F. S.; Berner L.; Hetrick, L. A.; Hussey, R. F.; Kuitert, L. C.; Muma, M. H.; Murphey, M., Jr.; Nation, J. L.; Perry, V. G.; Smith, W. W.; Tissot, A. N.; Walker, T. J.; Westfall, M. J.; Wilson, J. W.

EY 203—ECONOMIC ENTOMOLOGY. 3 credits
Offered 1, 2, 3. This course, or EY 307, is prerequisite or corequisite for all courses in Entomology except EY 303, EY 351 and EY 450. An introduction to economic entomology, which is based upon a study of the life histories and control of major insect enemies of American agricultural crops. Particular stress is placed upon southern and Florida economic insects. This course is designed for all students in the College of Agriculture either as a prerequisite or corequisite for other entomology courses. Textbook, "Destructive and Useful Insects," by Metcalf, Flint, and Metcalf; or "Insects of Farm, Garden, and Orchard," by Peairs and Davidson.

EY 303—INTRODUCTORY ECONOMIC NEMATOLOGY. IDENTICAL WITH VY 303. 3 credits
Offered 1. Prerequisite: BLY 181. An introduction to nematology, including a study of the life histories and control of the major nematodes affecting plants, domestic animals, and man. The course also includes the study of the relationships of nematodes to insects and closely related anthropods, either as parasites of these animals or the utilization of such animals as intermediate hosts.

EY 307—GENERAL ENTOMOLOGY. 3 credits
Offered 1. This course or EY 203, is prerequisite or corequisite for all other courses in Entomology, except EY 303, EY 351, and EY 450. The characteristics, biology, and habits of the insects in the major families of all insect orders. Students having an interest in insect life may register for this course. Textbook, "A Textbook of Entomology," by Ross.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

EY 311-312-313-314—ENTOMOLOGY SEMINAR. ½ credit each; group total two credits
Offered 1, 2. Papers dealing with some phase of entomology. At intervals, students appear before the seminar group to give talks or present papers dealing with the subject selected.

EY 351—FOREST ENTOMOLOGY—2 or 3 credits
Offered 1. Designed for students in the School of Forestry. (Majors in Entomology and other departments may enroll with permission of the Head of the Department at 2 credit level.) A basic course in Entomology designed for foresters. Structure, growth, and classification of insects with control considerations. Special emphasis is placed on insect enemies of forest tree species (many of which are also shade trees), and insect pests of forest products. Textbook, "Forest and Shade-Tree Entomology," by Anderson.

EY 401-402—PROBLEMS IN ENTOMOLOGY. 2-4 credits each; group total 4-8 credits
Offered 1, 2, 3. Prerequisites: EY 203 or EY 307, and the basic course in selected specialized field. Consists of entomological problems for study which may be in any field of specialization, including histology, morphology, taxonomy, embryology, biological control, ecology, toxicology, plant quarantine, biology, life history and habits, commercial entomology, structural pest control, and medical and veterinary entomology. Texbook to be selected based upon research problem.

EY 405—INSECT CONTROL (INSECTICIDES). 3 credits
Offered 1. Prerequisite or corequisite: EY 203, or EY 307. The control of insects and closely related arthropods by chemical and cultural methods. Insecticides, the effects of insecticides upon plants and animals, and the various methods of applications. For all students in Agriculture. Practical training to meet the everyday problems of insect attacks upon man, domestic animals, and cultivated plants. Textbook, "Manual of Insect Control," by Creighton.

EY 408—INSECT MORPHOLOGY AND PHYSIOLOGY, 4 credits
Offered 1. Prerequisite: EY 203, or EY 307. The external and internal anatomy of insects. The functioning of the parts of the body and the systems of organs. Textbook, "Principles of Insect Morphology," by Snodgrass.

EY 411—APICULTURE (AN INTRODUCTION TO BEE CULTURE). 2 credits
Offered 2. Prerequisite or corequisite: EY 203, or EY 307. The organization of a bee colony, life processes, races of bees, manipulation, value of colonies, nectar and pollen sources, pollination value, diseases, selection of apiary site, economic importance of industry, equipment, and marketing of products. Textbooks, "Hive and the Honey Bee," by Grout.

EY 420—MEDICAL ENTOMOLOGY. 3 credits
Offered 1. Prerequisite or corequisite: EY 203, or EY 307. The arthropods that are parasitic upon man, including insects and their near relatives, and their relationship to disease.

EY 422—VETERINARY ENTOMOLOGY. 2 credits
Offered 2. Prerequisite or corequisite: EY 203, or EY 307. The arthropods that are parasitic upon domestic animals, including insects and their near relatives, and their relationship to disease. Textbook, "Medical Entomology," by Herms.

EY 430—INSECT LABORATORY TECHNIQUE. 1 credit
Offered 1. Prerequisite or corequisite: EY 203, or EY 307. A study of the techniques involved in the preparation of insect material for microscopic study.

EY 432—FLORIDA FRUIT AND VEGETABLE INSECTS. 3 credits
Offered 2. Prerequisite or corequisite: EY 203, or EY 307. The identification, life histories, and control of the major insect pests of Florida's fruit and vegetable crops. For all students in the College of Agriculture, especially those interested in economic plant life.

EY 441—PLANT QUARANTINE, INSPECTION, AND CONTROL. 2 credits
Offered 2, even years. Prerequisite or corequisite: EY 203, or EY 307. The legal, operational, and administrative principles of plant quarantine, inspection and control; together with a study of plant quarantine organization methods, and control and eradication efforts of the past and present.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

EY 450—PUBLIC HEALTH ENTOMOLOGY (ENTOMOLOGY AND SANITATION). 3 credits
Offered 2, odd years. Insects and related animals affecting the health and comfort of man. Textbook, "Medical Entomology," by Matheson.

EY 460—INSECT IDENTIFICATION. 3 credits
Offered 2, 3. Prerequisites or corequisites: EY 203, or EY 307, and EY 408. A survey of immatures and adults of all orders. Identification of insects of all major families. Textbooks, "Introduction to Entomology," by Comstock, and "How to Know the Immature Insects," by Chu.

EY 462—INSECT ECOLOGY. 3 credits
Offered 2. Prerequisite or corequisites: EY 203, or EY 307, and EY 408. The basic principles of animal ecology as they apply to insect life.

EY 464—BIOLOGY AND NATURAL CONTROL. 2 credits
Offered 1. Prerequisites or corequisites: EY 203, or EY 307, EY 408, and EY 460. The fundamental principles involved in the natural and biological control of insects. Textbook, "The Principles of Biological Control," by Sweetman.

EY 470—THE EXPERIMENTAL METHOD. 2 credits
Offered 2, odd years. Prerequisite or corequisite: EY 203, or EY 307. Broad training in the experimental methods employed in the various phases of entomology. Textbook, "A Manual of Entomological Equipment and Methods," by Peterson.

EY 480—THE HISTORY OF ENTOMOLOGY. 1 credit
Offered 2, even years. Prerequisite or corequisite: EY 203, or EY 307. The major historical aspects of the field of entomology. Textbook, "Fragments of Entomological History," by Osborn.

EY 490—STRUCTURAL PEST CONTROL. 2 credits
Offered 2, odd years. Prerequisite or corequisite: EY 203, or EY 307. The major pests encountered by the commercial pest control operator, including life history studies, and chemical and mechanical methods of control. Textbook, "Manual of Structural Pest Control," by Creighton.

EY 492—ADVANCED ECONOMIC ENTOMOLOGY. 3 credits
Offered 2, 3, even years. Prerequisite or corequisite: EY 203, or EY 307. An advanced study of economic entomology which considers in detail the biology, life history, and control of the major insect species affecting the economic plants and animals of Florida. Particular stress is placed upon the recognition of the most economic species and their damage which affect field crops, deciduous fruits, and grasses. Textbook, "Destructive and Useful Insects," by Metcalf, Flint and Metcalf.

EY 494—INSECTICIDAL FORMULATIONS. 2 credits
Offered 2, even years. Prerequisites: EY 203, or EY 307 and EY 405. A study of the source and cost of raw materials. Development of formulae, and the preparation of large batch quantities on laboratory and pilot plant scale. The formulation of the raw materials into wettable powers, solutions, emulsions, aerosols, and dusts. The course includes consideration of the laws governing manufacture, labeling and sale of insecticides.

COURSE FOR ADVANCED UNDERGRADUATES AND GRADUATES

EY 501—ECONOMIC NEMATODES OF PLANTS. 3 credits
Offered 2. 2 hours and 3 hours laboratory. Prerequisite: EY 303 or its equivalent. Available for graduate major credit. A study of the morphology, taxonomy, life cycles, pathogenicity, and control of the plant parasitic nematodes.

GRADUATE COURSES

EY 601—METHODS OF RESEARCH IN ENTOMOLOGY. 3 credits

EY 603—PROBLEMS IN ENTOMOLOGY. 1 to 3 credits. Maximum 6 credits

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The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

EY 607—ADVANCED INSECT TAXONOMY. 3 credits

EY 608—COMPARATIVE INSECT MORPHOLOGY AND PHYSIOLOGY. 3 credits

EY 610—INSECT EMBRYOLOGY. 3 credits

EY 611—CONFERENCE IN ENTOMOLOGY. 1 to 4 credits

EY 615—ADVANCED BIOLOGICAL AND NATURAL CONTROL. 3 credits

EY 616—ADVANCED INSECT ECOLOGY. 3 credits

EY 617—PRINCIPLES OF INSECT PATHOLOGY. 3 credits

EY 618—CHEMISTRY AND TOXICOLOGY OF INSECTICIDES. 3 credits

EY 620—ADVANCED MEDICAL ENTOMOLOGY. 3 credits

EY 631—MORPHOLOGY AND PHYSIOLOGY OF NEMATODES. 2 credits

EY 632—TAXONOMY OF NEMATODES. 2 credits

EY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

EY 799—DOCTORAL DISSERTATION. 1 to 12 credits

Finance and Insurance

INSTRUCTIONAL STAFF 1960-61

Matthews, C. A., Head; Athearn, J. L.; Biscoe, A. B., Jr.; Cline, R. S.; Crum, L. L.; Frazer, W. J., Jr.; Hipp. J. E.; Howard, W. M.; McFerrin, J. B.; Richardson, J. B.

FI 322—FINANCIAL INSTITUTION. 3 credits
Offered 2. A study of the operations of financial institutions, interrelationships between the institutions and their role in the economic process.

FI 324—INVESTMENTS FOR INDIVIDUALS. 3 credits
Offered 1. Designed for the non-Business Administration student, this course deals with the principal investment problems the individual faces. Cannot be used for credit for BSBA degree.

FI 325 (ES 325)—PUBLIC FINANCIAL POLICY. 3 credits
Offered 1, 2, 3. Prerequisite: ES 201-202. Monetary, fiscal, and debt management policies designed to achieve high levels of employment, economic growth, and price stability.

FI 326—BUSINESS FINANCE. 3 credits
Offered 1, 2, 3. The acquisition and management of funds by businesses.

FI 360—PRINCIPLES OF INSURANCE. 3 credits
Offered 1, 2, 3. The basic principles of risk and insurance.

FI 361—PROPERTY INSURANCE—FIRE AND MARINE INSURANCE. 3 credits Offered by correspondence only. The broad, basic principles underlying Fire and Marine Insurance.

FI 362—PROPERTY INSURANCE. 3 credits
Offered by correspondence only. A continuation of FI 361 dealing with bond, title, and casualty insurance.

FI 363—LIFE AND HEALTH INSURANCE. 3 credits
Offered 1. Prerequisite: FI 360. Analysis of types of life and health insurance coverage and contracts; individual family, and business uses of such coverage; Premium rates and reserves; organization and operation of life insurance companies.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

FI 365—PROPERTY INSURANCE. 3 credits
Offered 1. Prerequisite: FI 360. Principles and practices of fire and marine insurance: contract; insurable interest; endorsements; settlement and adjustment of losses; co-insurance; non-concurrence; rates; reserve, consequential losses; reinsurance.

FI 366—CASUALTY INSURANCE AND CORPORATE SURETYSHIP. 3 credits
Offered 1. Prerequisite: FI 360. The needs for, and uses of, casualty insurance and corporate suretyship. Nature and functioning of the casualty insurance industry; problems and trends.

FI 387—FUNCTIONAL ASPECTS OF INSURANCE AND AGENCY MANAGEMENT. 3 credits
Offered 2. Insurance rates and rate making, financial statements; investments and reserves; underwriting and selection; surveys and programs; agent's function in the distribution of insurance.

FI 420—MANAGEMENT OF BANK FUNDS. 3 credits
Offered 1. Prerequisite: FI 325. Policies, practices and problems of commercial bank management: loans and discounts, investments, fiduciary and other services, the money market, etc.

FI 422—INVESTMENTS. 3 credits
Offered 1, 2, 3. Prerequisite: FI 427. Nature of investments; investment policies; analysis of securities; the mechanics and mathematics of security purchases; factors influencing security prices, and the nature of the New York Stock Exchange.

FI 462—GROUP INSURANCE AND PENSION PLANS. 3 credits
Offered 2. Prerequisite: FI 360, or FI 363. Pensions, group life and health insurance, the business uses of ordinary life insurance, and profit sharing.

FI 463—SOCIAL INSURANCE. 3 credits
Offered 2. The meaning of economic security; distinctions between social and private insurance; development of social insurance in the United States and existing programs.

FI 524—INVESTMENT ANALYSIS. 3 credits
Offered 2. Prerequisite: FI 422. The analysis of public utility, railroad, and general corporate securities; the supervision of security investments; factors influencing security values.

FI 528—CORPORATION FINANCE. 3 credits
Offered 2. The sale of corporation securities; problems incident to increased capital investment; combinations; business failures and financial reconstruction.

FI 584—LEGAL ASPECTS OF INSURANCE. 3 credits
Offered 2. The essentials of the law peculiarly applicable to the business of insurance including Florida's statutory regulation thereof.

FI 586—ESTATES, TRUSTS AND INSURANCE. 3 credits
Offered 2. Prerequisite: FI 363. Estate planning; coordination of life insurance with other assets; living and testamentary trusts; life insurance trusts; wills; guardianships; and tax aspects of estate planning.

GRADUATE COURSES

For admission to courses listed below, the student must have been admitted to the Graduate School and normally should have had undergraduate courses in fields pertinent to the graduate courses selected; or where necessary, special arrangements may be made with the approval of the department head.

Though no graduate major may be completed without adequate course work on the 600 or higher level, certain undergraduate courses in finance and insurance are available for graduate credit as a part of a candidate's major. These are: FI 420—Management of Bank Funds; FI 463—Social Insurance; FI 524—Investment Analysis; FI 528—Corporation Finance; FI 584—Legal Aspects of Insurance; and FI 586—Estates, Trusts and Insurance.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

FI 620—PROBLEMS IN COMMERCIAL BANKING. 3 credits

FI 622—SEMINAR IN INVESTMENTS. 3 credits

FI 627—PROBLEMS IN CORPORATION FINANCE. 3 credits

FI 628—CENTRAL BANKING, POLICIES AND PROBLEMS. 3 credits

FI 629—INTERNATIONAL FINANCE: MONETARY SYSTEMS. 3 credits

FI 630—INDIVIDUAL WORK IN FINANCE. 3 credits

FI 662—SEMINAR IN LIFE INSURANCE. 3 credits

FI 665—SEMINAR IN PROPERTY AND LIABILITY INSURANCE. 3 credits

FI 668—PROBLEMS IN RISK MANAGEMENT. 3 credits

Food Technology and Nutrition

INSTRUCTIONAL STAFF 1960-61

Dennison, R. A., Head; Hall, C. B.; Knapp, F. W.; Kuhn, G. D.; Robbins, R. C.; Showalter, R. K.; Van Middelem, C. H.; Wenzel, F. W.

FT 201—MAN'S FOOD. 1 credit
Offered 2. A study of the interrelationship of the dependence of human health upon the source, supply, deteriorative mechanisms and conservation of food.

FT 250—FUNDAMENTALS OF HUMAN NUTRITION. 2 credits
Offered 1, 2. A study of the properties, functions, requirements, interrelationships and metabolism of nutrients. The significance of nutrition during stages of the life cycle, under active and sedentary conditions, under stress, in longevity and for higher levels of mental and physical performance.

FT 301—THEORY AND TECHNOLOGY OF FOOD PRESERVATION. 3 credits
Offered 1. Prerequisites: CY 218, PS 202, BLY 181, or permission of instructor. Applications of the fundamental sciences to food conservation. Theory and principles of refrigeration, freezing, canning, fermentation and pickling.

FT 302—THEORY AND TECHNOLOGY OF FOOD PRESERVATION. 3 credits
Offered 2. Prerequisite: FT 301. Applications of the fundamental sciences to food conservation. Theory and principles of food irradiation and dehydration, chemical additives, sugar and sugar concentrates, spices and condiments, coloring matters, food poisoning, fats and oils, and food packaging.

FT 305—BASIC FOOD TECHNOLOGY LABORATORY. 1 credit
Offered 1. Corequisite or prerequisite: FT 301. Laboratory applications and demonstrations of the fundamental sciences to food conservation by refrigeration, freezing, canning, fermentation, and pickling.

FT 306—BASIC FOOD TECHNOLOGY LABORATORY. 1 credit
Offered 2. Corequisite or prerequisite: FT 302. Laboratory applications and demonstrations of the fundamental sciences to food conservation by food irradiation and dehydration, chemical additives; study by sugar and sugar concentrates, spices and condiments, coloring matters, and food packaging.

FT 401—FOOD ANALYSIS. 4 credits
Offered 1 in alternate years. Prerequisites: CY 301-302 or 362-363; CY 331, PS 201-202 or 205-206. The principles of modern physical and chemical methods used in the analysis of foods and the application of these methods to the examination of raw and processed foods.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

FT 402—FOOD CHEMISTRY. 3 credits
Offered 2 in alternate years. Prerequisites: CY 301-302 or CY 362-363. CY 302 may be concurrent. The chemistry of the important components of foods and the changes which occur during their processing and storage.

FT 406—FOOD CHEMISTRY LABORATORY. 1 credit
Offered 2 in alternate years. Prerequisite or corequisite: FT 402. (Accompanying laboratory course for FT 402).

FT 499—SPECIAL PROBLEMS IN FOOD TECHNOLOGY AND NUTRITION. 1 to 3 credits
Offered 1, 2, 3. Open to seniors on consent of instructor. Individual research work in various phases of food technology and nutrition.

GRADUATE COURSES

FT 602—FOOD CHEMISTRY. 4 credits

FT 621—FOOD ANALYSIS. 4 credits

FT 630—ADVANCED FOOD TECHNOLOGY I. 4 credits

FT 632—ADVANCED FOOD TECHNOLOGY II. 4 credits

FT 650—TOPICS IN FOOD SCIENCE. 2 credits. Maximum 6 credits

FT 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

Foreign Language

INSTRUCTIONAL STAFF 1960-61

Brunet, J. Head; Aratowsky, B.; Jones, O. F.; Kurth, A. L.; Fiore S.; Lasley, M. M.; Mueller, Th.; Oliva, P. F.

FLE 230—INDIVIDUAL WORK IN FOREIGN LANGUAGES. 3 credits
Prerequisite: Permission of the head of the department. Study of foreign languages for which there are no regular course offerings, such as Arabic, Hungarian, Italian, Portuguese and the modern Scandinavian languages. A sustained sequence in any of these languages cannot be assured.

FLE 351—COMPARATIVE STUDY OF FOREIGN LANGUAGE. 3 credits.
Offered 1. Prerequisite: Four semesters of Foreign language study in college, or the equivalent. The first half of the course FLE 351-352. Principles and problems of comparative grammar, illustrated by examples drawn from languages taught at the University of Florida. Required of all majors.

FLE 352—COMPARATIVE STUDY OF FOREIGN LANGUAGES. 3 credits
Offered 2. Prerequisite: FLE 351, or the equivalent. History and development of principal groups in the Indo-European family of languages, and of principal representatives of each group. The description, history, and present importance of each. Required of majors.

FLE 530—INDIVIDUAL WORK. 3 credits
Offered 1, 2. Prerequisite: status in a training program or as an in-service teacher of foreign languages. Students interning in foreign language may not elect this course. May be elected by others in place of EDS-FLE 585, when the latter is not offered. Readings, conferences and reports.

FLE 585—(Identical with EDS 585). FOREIGN LANGUAGES IN THE SECONDARY SCHOOL. 3 credits
Offered 3, concurrently with EDS 586 of FLE 586. Prerequisite: In-Service status as a teacher. Problems of language learning in high school and junior college. Historic methods. Newer methods, including use of audio-visual materials.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

FLE 586—(Identical with EDS 586). FOREIGN LANGUAGE FOR TEACHERS. 3 credits
Offered 3. concurrently with EDS 585 or FLE 585. Prerequisite: In-service status as a teacher. Intensive training to improve oral fluency and instruction in the cultural behavior patterns of the foreign people.

GRADUATE COURSES

FLE 619—COMPARATIVE GRAMMAR OF THE ROMANCE LANGUAGES. 3 credits

FLE 620—COMPARATIVE GRAMMAR OF THE ROMANCE LANGUAGES. 3 credits

FLE 750—SEMINAR IN FOREIGN LANGUAGES AND LITERATURES. 3 credits

Forestry

INSTRUCTIONAL STAFF 1960-61

Kaufman, C. M., Director; Beckwith, S. L.; Frazer, P. W.; Geltz, C. G.; Goddard, R. E.; Huffman, J. B. Miller, J. W., Jr.; Post, D. M.; Smith, R. B.; Sullivan E. T.; Swinford, K. R.; Willingham, J. W.

FY 220—INTRODUCTORY TO FORESTRY. 2 credits
Offered 1, 2. Fundamental underlying principles of the field of Forestry.

FY 221—SUMMER CAMP. 5 credits
Offered 3. Summer Camp work covers the entire field of forestry. Students receive field training by doing surveying, cruising, silviculture, mensuration, and forest management work.

FY 222—FOREST DRAWING. 1 credit
Offered 2. Lettering, freehand and mechanical, use of drawing instruments, preparation of maps and charts as used in forestry practices.

FY 226—DENDROLOGY, 2 credits
Offered 1. Prerequisites: BTY 180. Classification and distinguishing characteristics of commercially important forest tree species of the United States, including their size form, habitat and range. Laboratory and field identification.

FY 227—DENDROLOGY. 2 credits
Offered 2. The second half of the course FY 226-227.

FY 228—FOREST MENSURATION. 3 credits
Offered 3. Prerequisite: MS 325. Principles and practice of measuring forests and forest products with special attention to Florida conditions.

FY 229—FOREST MENSURATION. 3 credits
Offered 1. Prerequisite: FY 228. The second half of the course FY 228-229.

FY 301—SILVICS 1. 3 credits
Prerequisites: BTY 180. The biological aspects of tree growth, including the hereditary properties, the physiological functions and the reaction and adaptations to the environment.

FY 306—FOREST FIRE CONTROL AND USE. 3 credits
Offered 1. Techniques of protecting forests from fire and the use of fire in forest.

FY 309—WOOD TECHNOLOGY. 3 credits
Offered 2. Prerequisites: FY 226 and 227. Identification of the commercial timbers of the United States by appearance and structure as apparent under the hand lens, microscopic structure and non-chemical physical properties of wood, effects of moisture on strength and dimensions.

FY 310—REFORESTATION AND NURSERY PRACTICE. 3 credits
Offered 2. Seed collection and preparation, germination tests, nursery planting and management, field planting.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

FY 318—FOREST UTILIZATION AND PRODUCTS. 3 credits
Offered 2. Rough forest products, poles, piling, posts cross-ties, mine timbers, wood containers, furniture, veneer and plywood, pulp, paper and fiberboard, rayon and other chemically derived products, naval stores and other miscellaneous forest products.

FY 319—ADVANCED WOOD TECHNOLOGY. 3 credits
Offered 1. A continuation of the study of wood identification with additional material on wood anatomy and the physical and chemical properties of wood.

FY 353—PRINCIPLES OF WILDLIFE MANAGEMENT. 3 credits
Offered 1. The basic principles and concepts of wildlife as a crop, its increase, conservation and management, inclusive of game birds, fish and mammals.

FY 354—TECHNIQUES IN WILDLIFE MANAGEMENT. 3 credits
Offered 2. Prerequisite: FY 353. The study and practice of field and laboratory techniques essential to the management of wildlife populations.

FY 401—SILVICULTURE. 3 credits
Offered 1. Prerequisite: FY 301. Factors influencing natural and artificial regeneration; methods of cutting to secure regeneration; planting for artificial regeneration; methods of cutting for stand improvements; slash disposal; preparation of silvicultural plans.

FY 409—FOREST FINANCE. 3 credits
Offered 1. Forests as investments, interest rates, carrying charges, maturity, relation of intermediate to final and net incomes, and forest insurance.

FY 410—FOREST HISTORY AND POLICY. 2 credits
Open to seniors only. History of forest land use in the United States. Development of conservation agencies and study of federal and state laws affecting forests.

FY 412—SEMINAR. 2 credits
Offered 2. Round-table discussions of the trends, developments, problems, etc., that are found in forestry from time to time.

FY 413—FORESTRY FOR AGRICULTURISTS. 3 credits
Offered 1, 2. Non-credit for forestry majors. Principles and practice of forestry pertinent to the management of agricultural lands. Offered 3—to particularly serve the needs of workers in agricultural extension and vocational agriculture. Prerequisite for 3: A bachelors degree in agriculture.

FY 414—WOOD PRESERVATION. 2 credits
Offered 2. Prerequisite: FY 309. Decay, preservation, treating plants and apparatus, methods and costs, objects treated and results, fire proofing, painting and finishing woods.

FY 415—TIMBER MECHANICS AND TESTING. 3 credits
Offered 2. Prerequisites: FY 309 and MS 325-327. Wood-testing methods and test constants; basic principles involved in analysis of timber and plywood structures; basic design of timber and plywood structures.

FY 416—APPLIED FOREST MANAGEMENT. 3 credits
Offered 2. Prerequisite: FY 419. Application of the principles of forest management; working plans for stand regulation and measures for sustained yield, forest operation and administrative practice.

FY 418—LOGGING AND LUMBERING. 3 credits
Offered 2. Utilization of major forest products; logging engineering, transportation, equipment, costs, lumber manufacture, plant, milling practice, and merchandising of products.

FY 419—PRINCIPLES OF FOREST MANAGEMENT. 3 credits
Offered 1. Prerequisite: FY 229 or approval of instructor. Principles of forest management, forest organization, management plans, sub-divisions of forest area, forest regulation, cutting cycles, normal forest.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

FY 420—FOREST ECONOMICS. 3 credits
Offered 2. Prerequisite: AS 201 or ES 202. The economics of forestry and the forest-product industries. Supply and demand from the viewpoint of the firm. The factors of production in forestry. The application of economic principles to specific problems of forestry and the forest-product industries.

FY 421—KILN AND AIR DRYING OF LUMBER. 3 credits
Prerequisite: FY 309. Offered 1. Principles and practices of wood storage, stacking, air seasoning, kiln drying and schedules, temperature and moisture relations.

FY 431—FOREST PROBLEMS SEMINAR. Variable credit.
Offered 1, 2, 3. Discussion of and investigation in some particular field of forestry or wildlife management. The student will be assigned to the member of the staff in whose field his interest lies.

FY 434—APPLIED WILDLIFE MANAGEMENT. 3 credits
Offered 1. Prerequisite: FY 354. The application of wildlife management techniques to the production of annual crops of wildlife.

FY 435—APPLIED WILDLIFE MANAGEMENT. 3 credits
Offered 2. Prerequisite: FY 434. A continuation of FY 434. The application of wildlife management techniques for the production of annual crops of wildlife.

FY 436—WATERFOWL MANAGEMENT. 3 credits
Offered 1. Prerequisites: FY 353 and approval of instructor. The principles and problems concerned with the conservation and management of waterfowl populations.

FY 443—FOREST STATISTICS. 3 credits
Offered 1. Prerequisite: FY 229. Study of statistical procedures applicable to forest investigations. Problems and practice computations illustrating principles of experimental design and the reduction of experimental data.

FY 446—FOREST PHOTOGRAMMETRY. 3 credits
Offered 1. Prerequisite: FY 229. Study of those principles of aerial photogrammetry applicable to forest land managements. Practical experience in the use of photo interpretation and mapping equipment and in the application of approved methods and procedures.

FY 447—LOGGING PRACTICE. 3 credits
Offered 1. Approval of instructor. Sharpening axes and saws, welding and brazing, cable splicing, maintenance; and operation of Diesel equipment; felling and bucking trees, skidding and loading logs; logging roads and facilities.

FY 448—MILLING PRACTICE. 3 credits
Offered 2. Approval of instructor. Operating and maintaining a sawmill, including checking alignment of the mill, calculation of cut, sawing practices for maximum yield and quality.

GRADUATE COURSES

FY 601—RESEARCH METHODS IN SILVICULTURE. 3 credits

FY 602—RESEARCH PROBLEMS IN SILVICULTURE. 3 to 6 credits

FY 603—RESEARCH PROBLEMS IN WOOD UTILIZATION. 3 to 6 credits

FY 604—RESEARCH PROBLEMS IN FOREST ECONOMICS AND MANAGEMENT. 3 to 6 credits

FY 605—RESEARCH METHODS IN WILDLIFE MANAGEMENT. 3 credits

FY 606—RESEARCH PROBLEMS IN WILDLIFE MANAGEMENT. 3 to 6 credits

FY 626—FOREST GENETICS. 3 credits

FY 627—FOREST GENETICS. 3 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

FY 631—ADVANCED WOOD PRESERVATION. 3 credits

FY 651—TIMBER PHYSICS AND CHEMISTRY. 3 credits

FY 680—ADVANCED FOREST ECONOMICS. 3 credits

FY 681—ADVANCED FOREST ECONOMICS. 3 credits

FY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

French

INSTRUCTIONAL STAFF 1960-61

Brunet, J., Head; Fiore, S.; Kurth, A. L.; Wallace, M. J.; Wennberg, B.; Mueller, H. The undergraduate major must include FH 305-306, FH 307-308 and FH 503-504, or the equivalent. In addition, it must also include as a subsidiary requirement FLE 351, FLE 352 and six semester hours of one or more foreign languages other than the major.

FH 133—FIRST-YEAR FRENCH. 3 credits
Offered 1, 2, 3.

FH 134—FIRST-YEAR FRENCH. 3 credits
Offered 1, 2, 3. Prerequisite: FH 133 or the equivalent.

FH 201—SECOND-YEAR FRENCH. 3 credits
Offered 1, 2, 3. Prerequisite: FH 134, or the equivalent. Conducted in French.

FH 202—SECOND-YEAR FRENCH. 3 credits
Offered 1, 2. Prerequisite: FH 201, or the equivalent. Conducted in French.

FH 305—FRENCH COMPOSITION AND CONVERSATION. 3 credits
Offered 2. Prerequisite: FH 202, or the equivalent. Conducted in French.

FH 306—FRENCH COMPOSITION AND CONVERSATION. 3 credits
Not offered 1960-61. Prerequisite: FH 202, or the equivalent. Conducted in French.

FH 307—INTRODUCTORY READINGS IN FRENCH LITERATURE AND CIVILIZATION. 3 credits.
Offered 1. Prerequisite: FH 202, or the equivalent. Conducted in French.

FH 308—INTRODUCTORY READINGS IN FRENCH LITERATURE AND CIVILIZATION. 3 credits
Not offered 1960-61. Prerequisite: FH 202, or the equivalent. Conducted in French.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

FH 503—THE FRENCH NOVEL. 3 credits
Offered 1. Prerequisites: FH 305-306 and FH 307-308, or the equivalent. Conducted in French. Available for graduate major credit.

FH 504—FRENCH TRAGEDY, COMEDY AND DRAMA. 3 credits
Offered 2. Prerequisite: FH 305-306 and FH 307-308, or the equivalent. Conducted in French. Available for graduate major credit.

GRADUATE COURSES

FH 600—SPECIAL STUDY IN FRENCH LITERATURE. 3 credits

FH 617—OLD FRENCH. 3 credits

FH 618—OLD FRENCH. 3 credits

FH 630—INDIVIDUAL WORK. 3 credits

FH 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

Fruit Crops

INSTRUCTIONAL STAFF 1960-61

Krezdorn, A. H. Head; Biggs, R. H.; Ford, H. W.; Leonard, C. D.; Reitz, H. J.; Sharpe R. H.; Shoemaker; J. S., Soule, M. J., Jr.; Stewart, I.; Wolfe, H. S.; Young, T. W.; Ziegler, L. W.

FC 201—PRINCIPLES OF HORTICULTURE. 3 credits
Offered 1, 2, 3. Prerequisite: BTY 180 or C-6. Required of all fruit crops majors. Home and Commercial production of fruits, vegetables and flowers. Both for students not expecting to major in fruit crops and as an introductory course for fruit crops majors which should be taken in the sophomore year.

FC 335—INTRODUCTION TO CITRUS CULTURE. 2 credits
Offered 1. Prerequisite: FC 201. History, botany and varieties of citrus; soil and climatic requirements; commercial citrus areas; citrus markets. Designed to afford the student a proper foundation for specialized studies in citrus.

FC 336—THE CITRUS NURSERY AND YOUNG GROVE. 3 credits
Offered 2. Prerequisite: FC 335. A study of rootstocks, scion varieties, propagational methods, bud transmission problems; budwood and rootstock certification programs; handling the nursery and the grove in the first four years.

FC 341—CITRUS GROWING. 3 credits
Offered 2, 3. Prerequisite: BTY 180, or C-6 or equivalent. Citrus production and methods of culture designed to fill the need of the general student in agriculture. It is not to be taken for credit by production and research citrus majors, but is required of students majoring in Agricultural Education, Agricultural Engineering and citrus fruit packinghouse management and marketing majors.

FC 403—PHYSIOLOGY OF FRUIT PRODUCTION. 3 credits
Offered 1, 3. Prerequisites: BTY 211, FC 201, SLS 310. Physiological principles underlying the production of fruit crops. Textbook: Gardner, Bradford and Hooker, Fundamentals of Fruit Production, Third Edition.

FC 423—MAJOR TROPICAL FRUITS. 3 credits
Offered 1. Prerequisites: FC 201, SLS 310. A study of the propagation, culture, and commercial production of the avocado, lime, mango, and pineapple, with brief consideration of coffee, rubber and cacao. A field trip will be made.

FC 424—MINOR SUBTROPICAL AND TROPICAL FRUITS. 3 credits
Offered 2. Prerequisites: FC 201, SLS 310. Studies of the culture and relationship of such fruits as the guavas, carissa, sapodilla, starapple, papaya, lychee, tamarind, etc. A field trip will be made.

FC 437—CITRUS MATURITY AND PACKINGHOUSE PROCEDURE. 3 credits
Offered 1. Prerequisite: FC 336 or FC 341. The maturity and grade factors affecting market quality of citrus fruits, the laws regulating the shipping or sale of citrus fruits, and the operation of commercial packinghouses.

FC 438—CITRUS PACKINGHOUSE MANAGEMENT. 3 credits
Offered 2. Prerequisite: FC 437. Appraisal of personnel and machinery factors, records, and costs of packinghouse operations. A one-day field trip is required.

FC 439—CITRICULTURE. 4 credits
Offered 1. The first half of the course FC 439-440. Prerequisite: FC 336. The production of citrus fruits, including fertilization, irrigation, and cultivation. A three-day field trip is required each semester.

FC 440—CITRICULTURE. 4 credits
Offered 2. The second half of course FC 439-440. Spray programs, pruning, frost protection, and grove rehabilitation.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

FC 449—A STUDY OF CURRENT CITRUS RESEARCH IN FLORIDA. 4 credits
Offered 3. Prerequisites: FC 336 or 341. A comprehensive survey of research being conducted in the several areas of citrus production at the Citrus Experiment Station at Lake Alfred. Students will be in residence at the Citrus Station for 6 weeks.

FC 499—SPECIAL PROBLEMS IN FRUIT CROPS. 1 to 3 credits
Open to seniors on consent of instructor. Individual research work in various phases of fruit crops.

GRADUATE COURSES

FC 603—FRUIT CROPS SEMINAR. 1 credit

FC 611—CITRUS ROOTSTOCKS AND SCIONS. 3 credits

FC 612—CITRUS TAXONOMY AND BREEDING. 3 credits

FC 614—ADVANCED CITRICULTURE. 3 credits

FC 620—CITRUS PRODUCTION MANAGEMENT. 3 credits

FC 650—PROJECTS IN CITRUS PRODUCTION. 3 credits per project. Maximum 12 credits

FC 660—RESEARCH METHODS IN FRUIT CROPS. 3 credits

FC 670—NON-THESIS RESEARCH IN FRUIT CROPS. 1 to 6 credits

FC 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

FC 799—DOCTORAL DISSERTATION. 1 to 12 credits

General Science

See also courses in Elementary Education

INSTRUCTIONAL STAFF 1960-61

Hilliard, P., Head; Sheckles, M.; Young, G. M.

GL 301—ELEMENTARY SCHOOL SCIENCE I. 3 credits
Offered 1, 2, 3. Statisfies certification requirement in the Elementary Course, Area II. The role of science in the development of elementary school children. Experience with the content, materials, and approaches of elementary school science.

GL 302—ELEMENTARY SCHOOL SCIENCE II. 3 credits
Offered 2. A continuation of GL 301.

Geography

INSTRUCTIONAL STAFF 1960-61

Anderson, J. R., Head; Crist, R. E.; Cross, C. I., Davis, R. A.; Day, R. L.; Dunkle, J. R.; Dyer, D. R.; Marcus, R. B.; Pierson, W. H.; Raisz, E.; Varney, C. B.

An undergraduate major in geography consists of a minimum of twenty-four semester hours, including GPY 200, 300, 323, 330, 382, and 481. Work in other departments which is required as a subsidiary to this major includes ES 201 and GY 203 and GY 205.

GPY 200—INTRODUCTION TO GEOGRAPHY. 3 credits
Offered 1, 2, 3. A study of the relationships between population, human activities and the physical world.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

GPY 300—PHYSICAL GEOGRAPHY. 3 credits

Offered 1, 2. Prerequisite: C-21. The earth considered as the environment of man. Land forms, climate, soils, flora, fauna and mineral resources and the relation of their distribution to human affairs. Acceptable for physical science elective.

GPY 305—GEOGRAPHY OF FLORIDA. 3 credits

Offered 1, 2. The geographic conditions and human adjustments in the major regions of Florida. The natural environment, population, routes of communication, industries, resources, and strategic location in their geographical and historical aspects. Optional field trips.

GPY 323—ELEMENTARY CLIMATOLOGY. 3 credits

Offered 1. Prerequisite: GPY 200 or GPY 300. The elements of climate, weather types and storms; classifications and distribution of climatic types; descriptive and explanatory analysis of the climates of the world.

GPY 330—MAPS, CHARTS AND GRAPHS. 3 credits

Offered 1. Prerequisite: GPY 200 or GPY 300 or permission. Map composition and drafting; map interpretation; map projections; methods of graphic presentation; field mapping techniques essential to the preparation of geographic and geologic maps.

GPY 342—POLITICAL GEOGRAPHY. 3 credits

Offered 2. The concepts and axioms of political geography; geographic influences in the political development of the world; geopolitics, the major powers of the world.

GPY 382 (Identical with ES 382)—PRINCIPLES OF RESOURCE UTILIZATION. 3 credits

Offered 1, 2, 3. Prerequisite: GPY 200. A review of the natural and human resources of the United States followed by study of the wise and wasteful practices of exploitation and utilization of these resources. The principles of conservation with special reference to the South. Course designated to satisfy resource certification for social studies teachers.

GPY 430—INDIVIDUAL WORK. 3 credits

Offered 1, 2. For undergraduates only. Prerequisite: 12 hours of Geography and consent of the instructor. Qualified students and the instructor concerned may choose a particular topic or problem for study. GPY 430 may be repeated for full credit with change of content.

GPY 481—GEOGRAPHY OF THE UNITED STATES AND CANADA. 3 credits

Offered 1. Prerequisite: GPY 200. A regional survey with special reference to the human and natural resources of the United States. The analysis of the major regions of the United States and Canada.

GPY 485—GEOGRAPHY OF SOUTH AMERICA. 3 credits

Offered 2. Prerequisite: GPY 200. A survey of the continent organized around major geographic regions; human resources and production potential; economic development and the growth of trade.

GPY 486—GEOGRAPHY OF CARIBBEAN AMERICA. 3 credits

Offered 1. Prerequisite: GPY 200. A regional survey covering the West Indies, Mexico, and Central America. The commerce of each republic and island; Florida's relations with the Caribbean area.

GPY 490—FIELD COURSE IN RESOURCE UTILIZATION. 3 credits

Prerequisite: ES/GPY 382. An integrated study of the problems of local resources and their use in a designated unit area, such as a county or a city. Course consists of classwork and fieldwork. When offered during the regular session, the field work consists of an appropriate number of weekend trips. When offered during the summer; it operates as a continuous field trip in a selected area.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

GPY 510—AIRPHOTO INTERPRETATION OF THE GEOGRAPHIC LANDSCAPE. 4 credits
Prerequisite GPY 300 or permission. Study of the principles of aerial photography: identification and interpretation of physical and cultural features is emphasized: sketching and simple map making and uses of aerial photography treated.

GPY 548—GEOGRAPHY OF THE SOUTH. 3 credits
Prerequisite: GPY 200. Available for graduate major credit. The natural environment of the South in relation to its cultural, economic, and political conditions and to the nation as a whole; emphasis upon the problems of southern resources and their use; organized mainly on a regional basis.

GPY 549—GEOGRAPHY OF AFRICA, AUSTRALIA AND OCEANIA. 3 credits
Prerequisite: GPY 200 Available for graduate major credit. The natural regions, resources, populations, economic activities, problems of settlement and colonization.

GPY 586—ECONOMIC GEOGRAPHY OF THE FAR EAST. 3 credits
Prerequisite: GPY 200. Available for graduate major credit. The distribution of natural resources and their economic use within India, China, Japan, and Southeastern Asia.

GPY 587—ECONOMIC GEOGRAPHY OF EUROPE. 3 credits
Prerequisite: GPY 200. Available for graduate major credit. The characteristics and distribution of population and of economic activities in Europe as related to the natural resources of the continent; relationships to other parts of the world, especially North America.

GPY 588—ECONOMIC GEOGRAPHY OF THE USSR. 3 credits
Prerequisite: GPY 200. Available for graduate major credit. The peoples, geographic regions, natural resources and potentialites of the USSR; the significance of the USSR in the economic and political affairs of the world.

GPY 589—ECONOMIC GEOGRAPHY OF THE NEAR EAST. 3 credits
Prerequisite: GPY 200. Available for graduate major credit. The peoples, geographic regions, natural resources and potentialities of Southwest Asia and Egypt; the significance of these lands in the economic and political affairs of the world.

GPY 591—LAND TENURE. 3 credits
Prerequisite: GPY 382. Available for graduate major credit. A world-wide study of systems of land tenure, with special attention to the geographic factors underlying their development. The effects of the various systems of land tenure upon land utilization and productivity.

GRADUATE COURSES

GPY 600—FIELD COURSE IN GEOGRAPHY. 3 credits

GPY 601—FIELD COURSE IN GEOGRAPHY. 3 credits. Second half of GPY 600. May be taken concurrently with GPY 600.

GPY 605—ADVANCED CARTOGRAPHY. 3 credits

GPY 614—REGIONAL CLIMATOLOGY. 3 credits

GPY 623—GEOGRAPHY OF WORLD AGRICULTURE. 3 credits

GPY 624—ADVANCED ECONOMIC GEOGRAPHY. 3 credits

GPY 625—THE GEOGRAPHY OF UNDERDEVELOPED LANDS. 3 credits

GPY 626—URBAN GEOGRAPHY. 3 credits

GPY 630—INDIVIDUAL WORK. 3 credits

GPY 632—ADVANCED POLITICAL GEOGRAPHY. 3 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

GPY 641—PROBLEMS IN RESOURCE-USE. 3 credits

GPY 642—LAND UTILIZATION. 3 credits

GPY 651—POPULATION GEOGRAPHY. 3 credits

GPY 671—ADVANCED GEOGRAPHY OF MIDDLE AMERICA. 3 credits

GPY 672—ADVANCED GEOGRAPHY OF SOUTH AMERICA. 3 credits

GPY 680—DEVELOPMENT OF GEOGRAPHIC THOUGHT. 3 credits

GPY 682—SEMINAR IN REGIONAL GEOGRAPHY. 3 credits

GPY 683—SEMINAR IN GEOGRAPHIC RESEARCH. 3 credits

GPY 684—SEMINAR ON GEOGRAPHIC PROBLEMS IN LATIN AMERICA. 3 credits

GPY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

GPY 799—DOCTORAL DISSERTATION. 1 to 12 credits

Geology

INSTRUCTIONAL STAFF 1960-61

Edwards, R. A. Head (**); Blanchard, F. N.; Brooks, H. K.; Rappenecker, C., Acting Head, Sachs K. N. Jr.

Students planning to major in geology should consult with the department adviser as early as practicable. Room 206 Floyd Hall.

Courses marked (*) do not give credit toward a major in the College of Arts and Sciences, except by special permission of the Head of the Department.

** On leave 1960-61

GY 203—ELEMENTS OF PHYSICAL GEOLOGY. 3 credits
Offered 1, 2. A study of minerals and rocks and their formation, geological processes, land forms and their interpretation, and the applications of geological knowledge to human affairs. May be taken without laboratory.

GY 204—ELEMENTS OF HISTORICAL GEOLOGY. 3 credits
Offered 2. Prerequisite: GY 203. The geologic history of the earth including concepts of the origin of the continents and ocean basins, the major physical events as recorded in the rocks of the continents and the evolutionary changes in animals and plants through time. May be taken without laboratory.

GY 205—PHYSICAL GEOLOGY LABORATORY. 1 credit
Prerequisite or corequisite GY 203. Offered 1, 2. The laboratory study of some of the commoner rocks and minerals and their identification; the study of topographic maps; the interpretation of land forms as illustrated by selected topographic maps; and an introduction to the study of geologic maps.

GY 206—HISTORICAL GEOLOGY LABORATORY. 1 credit
Offered 2. Prerequisite: GY 203, 205, pre- or corequisite Gy 204. The study of rocks in the light of their origins; the study of primary structures of sedimentary rocks; introduction to fossils and their use; and the elements of paleogeography and paleoecology. Occasional Saturday field trips will be arranged.

*GY 210—ENGINEERING GEOLOGY. 3 credits
The several fields of geology significant in the location of engineering structures and installations; the identification of common minerals and rocks; the processes of weathering and erosion; structure; surface features and geologic history interpreted from topographic and geologic maps. For Civil Engineers.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

GY 308—ELEMENTARY CRYSTALLOGRAPHY AND MINERALOGY. 3 credits
Offered 1. Study of the crystal systems and the identification of rock forming and ore minerals by methods not involving the use of the microscope.

GY 309—STRUCTURAL GEOLOGY. 3 credits
Offered 1. Prerequisites: GY 203, 205. Structural features of the earth, their causes, recognition and interpretation, to include the mechanics of folding; faulting and other deformations of the outer shell of the earth.

GY 318—ELEMENTARY PETROLOGY. 3 credits
Offered 2. Prerequisite: GY 203, GY 308. Review of the rock-forming minerals followed by detailed consideration of the origin, occurrence, alteration, and classification of the igneous, sedimentary and metamorphic rocks.

GY 321—INVERTEBRATE PALEONTOLOGY. 3 credits
Offered 1. Prerequisite C-6 or the equivalent. Characteristics and identification of important groups of invertebrate fossils and their use in the determination of the geological age of sedimentary rocks.

GY 340—INTERPRETATION OF GEOLOGIC MAPS. 2 credits
Offered 1. Prerequisite or corequisite: GY 309. Surface and subsurface geologic features as they are represented on topographic and geologic maps.

GY 350—GROUND WATER GEOLOGY. 3 credits
Prerequisites: GY 203, 205 or equivalent. General principles of ground water geology, origin, composition and geologic control of accumulation, migration and emergence.

*GY 400—FLORIDA GEOLOGY FOR TEACHERS. 3 credits. Principles of physical and historical geology as applied to the geology and mineral resources of Florida.
The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

GY 401—GEOLOGY OF NORTH AMERICA. 3 credits
Prerequisite: GY 203. Offered 2. A detailed study of the physiographic regions and the geological structures of North America.

GY 411—PRINCIPLES OF ECONOMIC GEOLOGY. 3 credits
Prerequisite: GY 308. The origin of and geologic factors responsible for the location and accumulation of economic mineral deposits.

GY 417—SEDIMENTOLOGY AND STRATIGRAPHY. 4 credits
Prerequisites: GY 204, 206. Processes governing the accumulation of sedimentary deposits and principles used in their stratigraphy correlation.

GY 430—INDIVIDUAL WORK. 3 credits
Offered 1, 2. Prerequisite: 12 hours of Geology and permission of Head of Department. For work in addition to that offered in regular course in physiography, mineralogy, petrology, paleontology, stratigraphy, sedimentology, and structural geology. With change in content GY 430 may be elected for additional credit.

GY 440—GEOLOGICAL FIELD METHODS. 2 credits
Offered 2. Prerequisites: 15 hours of geology courses. Techniques used in geological field work.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

GY 500—ADVANCED STUDIES IN GEOLOGY. 3 credits
Available for graduate major credit. Ideas concerning the formation of mountains, geosynclines and the permanency or drift of continents and their influence on the concepts of historical geology.

GY 501—GEOMORPHOLOGY. 3 credits
Prerequisite: GY 401 or equivalent. Available for graduate major credit. Principles of geomorphology. A study of the basic concepts of the development of land forms, particularly with respect to the interrelation of rock structure, the processes operating and stage attained.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

GY 507—VERTEBRATE PALEONTOLOGY. (Identical with BLY 507) 4 credits
Prerequisites: BLY 309 and GY 204 and 206. Available for graduate major credit. The origin, distribution and methods of fossilization of vertebrates.

GY 518—OPTICAL CRYSTALLOGRAPHY AND MINERALOGY. 3 credits
Prerequisites: GY 308 and GY 318. Available for graduate major credit. The theory and use of the petrographic microscope in the recognition and identification of mineral grains and rocks in thin section and the determination of the optical properties of crushed fragments of non-apaque minerals.

GY 522—MICROPALEONTOLOGY. 3 credits. Available for graduate major credit
The study of Foraminifera, Ostracoda and other microscopic fossils.

GRADUATE COURSES

GY 601—GEOMORPHOLOGY OF SOUTHEASTERN UNITED STATES. 3 credits

GY 618—PETROGRAPHY. 3 credits

GY 621—ADVANCED STRATIGRAPHY AND PALEONTOLOGY. 3 credits

GY 630—INDIVIDUAL WORK. 3 credits

GY 650—GROUND WATER GEOLOGY OF COASTAL PLAIN PROVIDENCE. 3 credits

GY 660—SEMINAR. 3 credits

GY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

German

INSTRUCTIONAL STAFF 1960-61

Brunet, J., Head; Craps, J. E.; Jones, O. F.; Mauderli, M. O.; Valk, M. E.

The undergraduate major must include GN 305-306, GN 307-308 and GN 509-510, or the equivalent. In addition, it must also include, as a subsidiary requirement, FLE 351, FLE 352 and six semester hours of one or more foreign languages other than the major.

GN 133—FIRST-YEAR GERMAN. 3 credits
Prerequisite: GN 133, or the equivalent. Offered 1, 2, 3.

GN 134—FIRST-YEAR GERMAN. 3 credits
Offered 1, 2, 3. Prerequisite: GN 133, or the equivalent.

GN 201—SECOND-YEAR GERMAN. 3 credits
Offered 1, 2. 3. Prerequisite: GN 134, or the equivalent. Conducted in German.

GN 202—SECOND-YEAR GERMAN. 3 credits
Offered 1, 2, 3. Prerequisite: GN 201, or the equivalent. Conducted in German.

GN 305—COMPOSITION AND CONVERSATION. 3 credits
Offered 2. Prerequisite: GN 202, or the equivalent. Conducted in German.

GN 306—COMPOSITION AND CONVERSATION. 3 credits
Not offered 1960-61. Prerequisite: GN 202, or the equivalent. Conducted in German.

GN 307—INTRODUCTORY READINGS IN GERMAN, LITERATURE AND CIVILIZATION. 3 credits
Offered 1. Prerequisite: GN 202, or the equivalent. Conducted in German. Selections from Heyne, Keller, Meyer, Storm and Stifter.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

GN 308—INTRODUCTORY READINGS IN GERMAN, LITERATURE AND CIVILIZATION. 3 credits
Prerequisite: GN 202, or the equivalent. Conducted in German. Selections from Hauptmaun, Schnitzler, Rilke, Kafka and Thomas Mann.

GN 509—STUDIES IN GERMAN LITERATURE. 3 credits
Offered 1. Prerequisite: GN 307-308, or the equivalent. Conducted in German. Available for graduate major credit. Selected masterpieces of modern German literature. Lessing, Goethe, Schiller.

GN 510—STUDIES IN GERMAN LITERATURE. 3 credits
Offered 2. Prerequisite: GN 307-308, or the equivalent. Conducted in German. Available for graduate major credit. Selected masterpieces of modern German literature: Goethe, Schiller, Novalis, Kleist.

GRADUATE COURSES

GN 600—SPECIAL STUDY IN GERMAN LITERATURE. 3 credits

GN 630—INDIVIDUAL WORK. 3 credits

GN 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

Greek

INSTRUCTIONAL STAFF 1960-61

Brunet, J., Head; Aratowsky, B.

The undergraduate major must include GK 111 and GK 117, and six hours of composition and six hours of literature beyond GK 202, or the equivalent. The major may be earned by repeated registrations for GK 530, Individual Work. By the same means, a graduate minor may be earned. In addition, the major must include, as a subsidiary requirement, FLE 351, FLE 352 and six semester hours of one or more foreign languages other than the major.

GK 105—THE GREEK ELEMENT IN ENGLISH. 2 credits
Offered 2. Greek words in all varieties of current English, including scientific vocabularies. No previous knowledge of Greek is required. May not be used for major credit in the College of Arts and Sciences.

GK 111—GREEK LIFE AND LETTERS: CLASSICAL ARCHAEOLOGY. 2 credits
Offered 1. No prerequisite. Illustrated lectures on archaeology, its processes of discovery and methods. History of major archaelogical exploration in Mediterranean lands compared with extant literary information.

GK 117—GREEK LIFE AND LETTERS: THE GREEK DRAMA. 2 credits
Offered 2. No prerequisite. The classical Greek theater. Archaeological remains of important theaters. Selected plays of Aeschylus, Sophocles, Euripides, Aristophanes and Menander in translation. Ancient commentators.

GK 123—GREEK LIFE AND LETTERS; READINGS IN HISTORY, BIOGRAPHY AND INSCRIPTION. 2 credits
An introduction to ancient historiography. Lectures, readings and reports. Knowledge of Greek, not required. Students taking the course for major credit will do their readings in Greek.

GK 133—FIRST-YEAR GREEK. 3 credits
Offered 1.

GK 134—FIRST-YEAR GREEK. 3 credits
Offered 2. Prerequisite: GK 133, or the equivalent.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

GK 201—SECOND-YEAR GREEK. 3 credits

Offered 1. Prerequisite: GK 134, or the equivalent. The translation of Plato's *Apology*. Grammar study.

GK 202—SECOND-YEAR GREEK. 3 credits

Offered 2. Prerequisite: GK 201, or the equivalent. The translation of Platos' *Crito*, parts of the *Phaedo*, and selections from Xenophon's *Memorabilia*. Grammar study.

GK 530—INDIVIDUAL WORK. 3 credits

Offered 1, 2, 3. Prerequisite: 12 hours of college Greek or the equivalent and permission of the department head. Readings, conferences and reports. Subjects for which there are no special course offerings. With change of content, may be elected for addition al credit.

Health Related Services

INSTRUCTIONAL STAFF 1960-61

Bragg, V. C.; Bzoch, K. R.; Davis, H. C.; Dawson, J. G.; Dubowski, K. M.; Jantzen, A. C.; Jonas, G. J.; Mase, D. J.; Nelson, J. B.; Rutan, F. M.; Slotnick, I. J.; Thralls, M. C.; White, B. C.; Wroe, M. C.

The following courses are common to one or more areas of training in the College of Health Related Services. See Medical Technology (MET), Occupational Therapy (OCT), and Physical Therapy (PHT) for additional professional courses in the respective curricula. HRS 433 and 434 are required for physical therapy and occupational therapy. HRS 201 and 404 are required for these curricula and medical technology. HRS 322 and 331 are required for occupational therapy and are elective for physical therapy.

HRS 201—INTRODUCTION TO HEALTH RELATED SERVICES. 2 credits

Offered 1 and 2. Open to University College students. The current concept of comprehensive care of the ill and disabled. An orientation to the roles of the various health professions.

HRS 322—PSYCHIATRIC DISORDERS. 2 credits

Offered 2. Prerequisite: PSY 410 and OCT 311 or PHT 301. Personality formation with emphasis on periods of tension and conflict. Intensive study of the psychoses and psychoneuroses and their psychiatric management. Personality reactions to physical illness.

HRS 331—CLINICAL PHYSIOLOGY. 3 credits

Offered 1. Prerequisites: BTY 180 and BLY 181. The pathogenesis of human diseases and injuries. The mechanisms whereby etiologic agents effect changes resulting in signs and symptoms.

HRS 404—PROFESSIONAL RELATIONSHIPS IN THE HEALTH FIELDS. 2 credits

Offered 2. Prerequisite: HRS 201. A consideration of interpersonal and intergroup relationships in the health related professions: characteristics and determinants of relationships, meaning for the individual, and meaning for cooperative enterprises.

HRS 433—MEDICAL AND SURGICAL DISORDERS. 3 credits

Offered 1. Prerequisite or corequisite: HRS 331. Etiology, pathology, symptomatology and treatment of general medical and surgical conditions. Diseases and injuries of the skeletal system, its articulations and associated structures.

HRS 434—MEDICAL AND SURGICAL DISORDERS. 3 credits

Offered 2. Diseases of the central and peripheral nervous systems. The disorders specific to pediatrics and geriatrics. Visual and auditory conditions.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

History

INSTRUCTIONAL STAFF 1960-61

McAlister, L. N., Head; Baringer, W. E.; Bentley, G. R.; Boyd, M.; Carleton, W. G.; Chmielewski, E.; Doty, F. A.; Groth, J. H.; Haber, F. C.; Hammond, E. A.; Hanna, P. L.; Harrison, J. A.; Hoffman, G. J.; Mahon, J. K.; Patrick, R. W.; Payne, A. N.; Payne, W. A.; Proctor, S.; Svarlien, O.; Thompson, A. W.; Worcester, D. E.; Yearley, C. K.; Young, M. M.

A departmental major consists of between twenty-four and thirty-two hours of history. Although there is no rigid sequence of courses prescribed, majors are generally expected to take HY 201-202 and HY 245-246 and are required to take HY 500 and at least three hours of HY 599. Students who plan to major in history should consult one of the departmental advisers as early as possible in their academic career.

HY 151—FLORIDA HISTORY TO 1860. 3 credits
Offered 1. Pre-Columbian Florida; Spain in Southeastern North America; the imperial conflict for Florida; the British Period; the Second Spanish Period; the United States acquisition of the Floridas; the territorial period; early statehood.

HY 152—FLORIDA HISTORY, 1860 TO THE PRESENT. 3 credits
Offered 2. Florida during the Civil War and Reconstruction; the development of agriculture and industry; society and education; political reaction and the progressive era; the tourist trade, urbanization, and contemporary politics.

HY 201—HISTORY OF WORLD CIVILIZATIONS TO 1550. 3 credits
Offered 1, 2. A general introduction to the civilizations and cultures antecedent to the modern Western World. Designed to give an understanding of the development and meaning of western history from its origins through the Reformation.

HY 202—HISTORY OF WORLD CIVILIZATIONS, 1550 TO THE PRESENT. 3 credits
Offered 1, 2. The historical evolution of political, social, economic, religious and scientific ideas and institutions since the Reformation.

HY 245—UNITED STATES HISTORY TO 1865. 3 credits
Offered 1, 2. A survey of the political, economic, social and intellectual development of the United States from the founding of Britain's colonies in North America through the American Civil War.

HY 246—UNITED STATES HISTORY, 1865 TO THE PRESENT
Offered 1, 2. Reconstruction, the Age of Big Business, the United States as a world power, World War I, the great depression and the New Deal, World War II and its aftermath will be studied in an interpretative survey.

HY 301—THE HISTORY OF MODERN SCIENCE. 3 credits
Offered 1. The social and cultural origins of science, the growth and development of the major sciences, and their influence upon society.

HY 307—ANCIENT CIVILIZATIONS. 3 credits
Offered 1. Prerequisite: C-1 or equivalent and 6 additional hours of social sciences. A study of the rise of ancient civilizations in Egypt, Mesopotamia and Asia Minor and of the Greek City States.

HY 308—ANCIENT CIVILIZATIONS. 3 credits
Offered 2. Prerequisite: C-1 or equivalent and 6 additional hours of social sciences. A study of Hellenism, the Roman Republic and the Roman Empire.

HY 313—THE EARLY MIDDLE AGES. 3 credits
Offered 1. Prerequisite: C-1 or equivalent and 6 additional hours of social sciences. A survey of the principal political, economic, social and intellectual developments in Europe from the Roman Empire to the end of the twelfth century.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

HY 314—THE LATE MIDDLE AGES. 3 credits
Offered 2. Prerequisite: C-1 or equivalent and 6 additional hours of social sciences. A continuation of HY 313 to the middle of the fifteenth century.

HY 315—EARLY MODERN EUROPE, 1500-1648. 3 credits
Offered 1. Prerequisites: C-1 or equivalent and 6 additional hours of social sciences. A survey of intellectual, religious, and political developments, emphasizing the Northern Renaissance, Protestant and Roman Catholic movements for religious reform, and the developing power of national states.

HY 316—EARLY MODERN EUROPE, 1648-1789. 3 credits
Offered 2. Prerequisite: C-1 or equivalent and 6 additional hours of social sciences. A survey giving special attention to the achievements and failures of royal absolutism, the scientific, social and political writings of the "Enlightenment," and the dynastic and colonial wars of the 17th and 18th centuries.

HY 321—SEMINAR CURRENT LATIN-AMERICAN EVENTS. 2 credits
Prerequisite: SH 202. Conducted in Spanish. The Department of History and the Department of Foreign Languages cooperate in offering a study of current Latin-American events as reported in contemporary Spanish-language sources.

HY 323—SEMINAR IN CURRENT WORLD EVENTS: FRENCH SOURCES. 2 credits
Prerequisite: FH 202. Conducted in French. The Department of History and the Department of Foreign Languages cooperate in offering a study of current world events as reported in contemporary French-language sources.

HY 325—RECENT MODERN EUROPE, 1789 to 1870. 3 credits
Offered 1. Prerequisites: C-1 or equivalent and 6 additional hours of social sciences. A survey of contemporary Europe from the French Revolution to 1870. The influence of liberalism, nationalism and industrialism upon political, social, economic and intellectual life is stressed.

HY 326—RECENT MODERN EUROPE, 1870 TO THE PRESENT. 3 credits
Offered 2. Prerequisites: C-1 or equivalent and 6 additional hours of social sciences. A survey in with the impact of conflicting ideologies, economic crises and wars upon European political, social, economic and intellectual life and the interdependence of Europe and the rest of the world is stressed.

HY 333—THE HISTORY OF RUSSIA. 3 credits
Offered 1. Prerequisites: C-1 or equivalent and 6 additional hours of social sciences. A survey of the growth of Russia from the Kievan state to the Crimean War. Emphasis is placed on institutional development; the rise of the autocracy, and the expansion of the state.

HY 334—MODERN RUSSIA AND THE U.S.S.R. 3 credits
Offered 2. Prerequisites: C-1 or equivalent and 6 additional hours of social sciences. The decline and collapse of imperial Russia and the creation of a new society. Emphasis is placed on the revolutionary movement, the structure of the Soviet State, and the problem of historical continuity.

HY 335—ENGLISH HISTORY TO 1689. 3 credits
Offered 1. Prerequisites: C-1 or equivalent and 6 additional hours of social sciences. A survey of English History from early times to the Glorious Revolution, with emphasis on Medieval England, the rise of the state, the Tudor and Stuart periods and economic and political developments.

HY 336—ENGLISH HISTORY, 1689 TO THE PRESENT. 3 credits
Offered 2. Prerequisites: C-1 or equivalent and 6 additional hours of social sciences. A survey of the development of Modern England from the Glorious Revolution to the present, with emphasis on the extension of English influence throughout the world in the eighteenth and nineteenth centuries.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

HY 344—AMERICAN MILITARY HISTORY. 3 credits
Offered 1. Prerequisite: C-1 or equivalent. The impact of war, the threat of war, preparations for war, and the effect of changes of weapons and weapons systems upon the United States, from the colonial period to the present.

HY 346—CULTURAL HISTORY OF THE UNITED STATES. 3 credits
Offered 2. Prerequisite: C-1 or equivalent. Description and analysis of the changing patterns of culture in the history of American Civilization. Basic "culture themes" will be studied and their impact on various aspects of society surveyed.

HY 371—COLONIAL LATIN-AMERICAN HISTORY. 3 credits
Offered 1. Prerequisite: C-1 or equivalent. A survey of the discovery, exploration, and settlement of Latin America; the colonial systems of Spain and Portugal; the economic, social, political and cultural developments in the colonies.

HY 372—MODERN LATIN-AMERICAN HISTORY. 3 credits
Offered 2. Prerequisite: C-1 or equivalent. A survey of Latin America from the Wars of Independence to the present, with particular attention to fundamental political, economic, and cultural factors and to the increasing importance of Latin America in world affairs.

HY 381—FAR EASTERN CIVILIZATION I. 3 credits
Offered 1. Prerequisite: C-1 or the equivalent. A study of the civilizations of Eastern Asia; their history and problems from early to recent modern times.

HY 382—FAR EASTERN CIVILIZATION II. 3 credits
Offered 2. Prerequisite: C-1 or equivalent. A continuation of HY 381 into the recent and contemporary period with emphasis on the reception and impact of Western ideas and practices and on the complex problems of American foreign policy in that area.

HY 400—HISTORY FOR TEACHERS. 6 credits
Offered 3. A refresher course in the problems and methods of history and allied disciplines.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

HY 500—THE NATURE OF HISTORY. 3 credits
Offered 1, 2. An introduction to the history of history and to the critical and philosophical problems involved in the study of history.

HY 549—THE CIVIL WAR AND RECONSTRUCTION. 3 credits
Offered 1. Prerequisites: C-1 or equivalent and 12 additional hours of social sciences. The causes, course and results of the sectional struggle in the United States; the economic and social significance of the Civil War and Reconstruction in the nation.

HY 551—THE OLD SOUTH. 3 credits
Offered 1. Prerequisites: C-1 or equivalent and 12 additional hours of social sciences. The impact of climate, soil and the plantation system upon Southern social, economic and political life, thought and actions; the sectional clash between North and South; the Civil War in the South.

HY 552—THE NEW SOUTH. 3 credits
Offered 2. Prerequisites: C-1 or equivalent and 12 additional hours of social sciences. The South from the Civil War to the present; the impact of the Civil War and Reconstruction; Bourbons and populists; agriculture and industry, society and culture; twentieth century politics.

HY 591—(Identical with SY 591, ES 591, and PCL 591).—MASTERPIECES IN THE SOCIAL SCIENCES. 3 credits
For advanced students with background work in the social sciences who have the approval of their major adviser and the course chairman. Reading of classics in economics, history, political science, sociology and cultural anthropology.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

HY 592—(Identical with SY 592, ES 592, and PCL 592.)—MASTERPIECES IN THE SOCIAL SCIENCES. 3 credits
Offered 2. The second half of the course HY 591-592.

HY 599—SPECIAL STUDY IN HISTORY. 3 credits
Offered 1, 2. Prerequisite: Permission of the instructor. Available for graduate major credit. Tutorial or pro-seminar study in various periods, regions, or topics.

GRADUATE COURSES

HY 603—INTRODUCTION TO HISTORICAL RESEARCH. 3 credits

HY 609—DIRECTED STUDY IN ANCIENT CIVILIZATIONS. 3 credits

HY 610—DIRECTED STUDY IN ANCIENT CIVILIZATIONS. 3 credits

HY 613—DIRECTED STUDY IN THE EARLY MIDDLE AGES. 3 credits

HY 614—DIRECTED STUDY IN THE LATER MIDDLE AGES. 3 credits

HY 620—SEMINAR IN THE HISTORY OF MODERN WESTERN THOUGHT. 3 credits

HY 623—THE AGE OF LIBERAL AND NATIONAL REVOLUTIONS. 3 credits

HY 624—THE AGE OF CONFLICTING IMPERIALISMS AND IDEOLOGIES. 3 credits

HY 625—SEMINAR IN MODERN EUROPEAN HISTORY. 3 credits

HY 626—SEMINAR IN MODERN EUROPEAN HISTORY. 3 credits

HY 630—INDIVIDUAL WORK. 3 credits

HY 633—SEMINAR IN ENGLISH HISTORY. 3 credits

HY 634—SEMINAR IN ENGLISH HISTORY. 3 credits

HY 643—UNITED STATES THOUGHT AND CULTURE TO 1865. 3 credits

HY 644—UNITED STATES THOUGHT AND CULTURE SINCE 1865. 3 credits

HY 647—UNITED STATES: THE EARLY NATIONAL PERIOD. 3 credits

HY 648—UNITED STATES: THE MIDDLE PERIOD. 3 credits

HY 651—THE EMERGENCE OF THE MODERN UNITED STATES. 3 credits

HY 660—SECURITY AND DEFENSE POLICIES SEMINAR I. 3 credits

HY 661—SECURITY AND DEFENSE POLICIES SEMINAR II. 3 credits

HY 679—DIRECTED STUDY IN LATIN-AMERICAN HISTORY: THE COLONIAL PERIOD. 3 credits

HY 680—DIRECTED STUDY IN LATIN-AMERICAN HISTORY: THE NATIONAL PERIOD. 3 credits

HY 683—DIRECTED STUDY IN FAR EASTERN HISTORY. 3 credits

HY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

HY 704—HISTORIOGRAPHY AND THE PHILOSOPHY OF HISTORY. 3 credits

HY 751—SEMINAR IN UNITED STATES HISTORY. 3 credits

HY 752—SEMINAR IN UNITED STATES HISTORY. 3 credits

HY 777—SEMINAR IN LATIN-AMERICAN HISTORY. 3 credits

HY 778—SEMINAR IN LATIN-AMERICAN HISTORY. 3 credits

HY 799—DOCTORAL DISSERTATION. 1 to 12 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

Industrial Arts Education

INSTRUCTIONAL STAFF 1960-61

Hampton, I. P., Head; Barton, G.; Massey, H. (on leave); Meyer, H.; Schacht, R. C.

IN 102—ELEMENTARY WOODWORK. 3 credits
Offered 1, 2. Projects, shop sketching, wood finishing, common tool techniques in hand wood-working, and related information. An introductory course.

IN 320—GENERAL BENCH METALS. 3 credits
Offered 1. Hand tools and processes including forming, molding, raising, chasing, piercing, and planishing; basic sheet metals, including layout, soldering, seaming, wiring, and riveting.

IN 330—ELEMENTARY HANDCRAFTS. 3 credits
Offered 1, 2, 3. Creation of simple projects in such media as leather, textiles, clay, reed, plastics, linoleum block, metal, wood, and native materials.

IN 400—DESIGN AND CONSTRUCTION IN WOOD. 3 credits
Offered 2. Basic principles of design and practices in their application.

IN 421—METALS AND INDUSTRIAL PROCESSES. 3 credits
Offered 1. Tools, materials and industrial processes involved in molding, casting, welding, forging, and heat treatment.

IN 440—INDUSTRIAL ARTS LABORATORY. 3 credits
Offered 1, 2, 3. For advanced undergraduate students. Extension work in one of the certification areas in industrial arts. This course may be repeated for credit with the approval of the Department Head.

GRADUATE COURSES

IN 606—HISTORY AND PHILOSOPHY OF INDUSTRIAL EDUCATION. 3 credits

IN 624—PROBLEMS IN INDUSTRIAL EDUCATION. 3 credits

IN 635—CURRICULUM SYMPOSIUM IN INDUSTRIAL EDUCATION. 3 credits

Industrial Engineering

INSTRUCTIONAL STAFF 1960-61

Hollis, R. P.; Interim Head; Cooley, H.; Deuel, J. E.; Downey, P. M.; Gregg, R.; Kleinschmidt, A. C.; Martinson, E. P.; Nattress, J. A.; Reed, R., Jr.; Vaughn, R. C.; Welch, A. G.; Wilcox, D. B.

IG 201—INTRODUCTION TO INDUSTRIAL ENGINEERING. 2 credits
Offered 1, 2. Prerequisite: MS 106. Orientation in industrial engineering. The analytical engineering approach as applied to problems encountered in modern industry in coordinating manpower, materials, equipment and methods.

IG 321—WORK SIMPLIFICATION AND STANDARDIZATION. 3 credits
Offered 1, 2. Prerequisite: Upper Division classification. Process analysis, operation analysis, and time standardization procedures applied to work situations. A special course for any upper-classman not majoring in Industrial Engineering.

IG 322—PLANT DEVELOPMENT AND OPERATION. 3 credits
Offered 1, 2. Prerequisite: Upper Division classification. The factors affecting plant location, plant layout, and plant operation. A special course for any upper-classman not majoring in Industrial Engineering.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

IG 371—JOB ANALYSIS AND EVALUATION. 2 credits
Offered 1, 2, 3. Prerequisite: Upper Division classification. Analysis of the several systems of determining the relative worth of jobs. Wage determination. Job evaluation plan installation and maintenance. Merit rating.

IG 372—TIME AND MOTION STUDY. 3 credits
Offered 1, 2. Prerequisites: Engineering classification and IG 201. The study of working procedures to determine the best methods, the best human motions and establishment of time standards. Methods analysis.

IG 451 (IDENTICAL WITH MS 463).—QUALITY CONTROL. 3 credits
Offered 1, 2. Prerequisite: MS 354.

IG 460—ENGINEERING ECONOMY. 3 credits
Offered 1, 2, 3. Prerequisite: Engineering classification. The economic aspect of technical projects stressing the importance of alternative solutions selected through economy, intangible and financial analyses.

IG 463—SPECIFICATIONS, CONTRACTS, ETHICS AND INDUSTRIAL SAFETY. 3 credits
Offered 1, 2, 3. Prerequisite: Engineering classification. Contracts, contracting procedures; specification analysis; ethics and professional responsibility; industrial safety and legal responsibility of employer and employee.

IG 464—ACCIDENT PREVENTION ENGINEERING. 2 credits
Offered 1, 2. Prerequisite: Engineering classification. Accident and industrial health safeguards. Protective design in plant and equipment. Employee training in safe methods of performing tasks.

IG 468—SALES ENGINEERING. 3 credits
Offered 1, 2. Prerequisite: Engineering classification. Corequisite: MKG 233. An analytical approach applied to the selling of equipment and services that require engineering skill in their selection, application and use.

IG 469—PLANT LOCATION, SELECTION AND LAYOUT. 4 credits
Offered 1, 2. Prerequisites: Senior Engineering classification and IG 372. Principles, methods, and techniques for analyzing existing or designing proposed plant facilities. The problems involved in and the interrelationships of plant location, product analysis, process design, equipment selection, materials handling, plant arrangement and supplementary services.

IG 470—PLANT OPERATION AND CONTROLS. 4 credits
Offered 1, 2. Prerequisites: Permission of Instructor. Organizing, analyzing and forecasting for production. Planning, scheduling, controlling production activities affecting material, labor and overhead costs. Introduction to data processing and linear programming.

IG 472—HUMAN ENGINEERING. 2 credits
Offered 1, 2, 3. Prerequisite: Engineering classification. Human nature in design and production problems. The human element in the design of equipment and processes; human reactions to plant situations.

IG 479—INDUSTRIAL ENGINEERING SEMINAR. 1 credit
Offered 1, 2. Prerequisite: Senior Engineering classification. Lectures and discussions on general and specific engineering problems. Individual investigation and reports on assigned topics. Orientation for an industrial career.

IG 480—INDUSTRIAL DEVELOPMENT. 2 credits
Offered 1, 2. Prerequisite: Senior Engineering classification. A study of industrial development regionally and nationally as well as by industries. The effect of new discoveries and new consumer needs on future engineering problems is stressed.

IG 481—INDUSTRIAL ENGINEERING PROJECTS. 3 credits
Offered 1, 2. Prerequisite: ML 377. Project planning, investigation, experimentation, analysis and report writing. Individual and group responsibilities are stressed.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

The courses numbered in the 500's are designed for advanced undergraduates and beginning graduate students. They may be taken for graduate major credit when approved by the departmental advisor or by the student's graduate supervisory committee. Students taking these courses for graduate major credit will be required to do additional reading, problems and reports. Programs for all graduate degrees must include approved course work at the 600 level or above.

IG 535 (IDENTICAL WITH NR 535).—RADIOLOGICAL SAFETY ENGINEERING. 2 credits

IG 570—MANUFACTURING OPERATIONS ANALYSIS. 3 credits
Available for graduate major credit. Corequisites: IG 470 and permission of instructor. The technical analysis and solution of the more complex problems in manufacturing operations. The application of linear programming and other operations research techniques.

IG 572—PREDETERMINED TIME STANDARDS. 3 credits
Available for graduate major credit. Prerequisites: IG 372 and permission of instructor. Principles and applications of predetermined time systems. Advanced training in concepts of motion economy with emphasis on unit cost reduction.

GRADUATE COURSES

IG 661—ADVANCED INDUSTRIAL PLANT LAYOUT AND ORGANIZATION. 3 credits

IG 662—ADVANCED STUDIES IN PLANT OPERATION. 3 credits

IG 664—INDUSTRIAL SUPERVISION. 3 credits

IG 665—WORK MEASUREMENT THEORY AND PRACTICE. 3 credits

IG 666—ENGINEERING VALUATION. 3 credits

IG 667—SPECIAL TOPICS IN INDUSTRIAL ENGINEERING I. 3 credits

IG 668—SPECIAL TOPICS IN INDUSTRIAL ENGINEERING II. 3 credits

IG 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

Inter-American Area Studies

GRADUATE COURSES

IA 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

IA 799—DOCTORAL DISSERTATION. 1 to 12 credits

Interior Design

INSTRUCTIONAL STAFF 1960-61

Lendrum, J. T., Head; Everett, G. D.; McFarlane, J.

IR 201—HOME DECORATION I. 3 credits
Offered 1, 2. Elements and principles of interior design as applied to the home. A study of interior space and furnishings, and a consideration of basic factors such as scale, form, color, and arrangements.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

IR 202—HOME DECORATION II. 3 credits
Offered 1, 2. Prerequisite: IR 201. Problems in the application of fundamental principles to the interior design and decoration of the home.

IR 231—ELEMENTARY INTERIOR DESIGN I. 3 credits
Offered 1, 2, 3. Corequisite: AE 241. The basic elements and principles of design; their individual characteristics, interrelationships and application to the visual arts; using two-dimensional techniques to develop unit, lineal, and all-over patterns for fabric, floor coverings, and wall papers.

IR 232—ELEMENTARY INTERIOR DESIGN II. 3 credits
Offered 1, 2, 3. Prerequisite: IR 231. Three-dimensional designs including furniture, built-ins, and accessories stressing various materials, finishes, and upholstery.

IR 331—INTERMEDIATE INTERIOR DESIGN I. 6 credits
Offered 1, 2. Prerequisite: IR 232. Corequisite: IR 341, IR 371. Basic furniture arrangements, simple wall treatments, and interior perspectives using color collages of the actual materials.

IR 332—INTERMEDIATE INTERIOR DESIGN II. 6 credits
Offered 1, 2. Prerequisite: IR 331. Corequisite: IR 342, IR 372. Designs of simple interiors using both traditional and contemporary styles.

IR 341—INTERIOR FURNISHINGS I. 3 credits
Offered 1. Prerequisite: AE 241. Materials used for interior surfaces and coverings.

IR 342—INTERIOR FURNISHINGS II. 3 credits
Offered 2. Prerequisite: IR 341. Lectures and demonstrations of equipment used in interiors.

IR 371—HISTORY I. 3 credits
Offered 1. Historic interior styles to the end of the 16th century, with emphasis on their cultural settings.

IR 372—HISTORY II. 3 credits
Offered 2. Prerequisite: IR 371. Historic interior styles from the beginning of the 17th century to 1930, with emphasis on their continuing cultural settings.

IR 431—ADVANCED INTERIOR DESIGN I. 8 credits
Offered 1, 2. Prerequisite: IR 332. Problems involving complex commercial and public areas.

IR 432—ADVANCED INTERIOR DESIGN. 8 credits
Offered 1, 2. Prerequisite: IR 431. Corequisite: IR 442. A continuance of complex problems of a thesis type and including working drawings.

IR 442—PRACTICE OF INTERIOR DECORATING. 3 credits
Offered 2. Corequisite: IR 442. Administration of interior decorating operations: estimating, professional relations, legal forms, specifications and supervision.

IR 502—INTERIOR DESIGN FOR ARCHITECTS. 3 credits
Offered 1. Prerequisite: AE 432. Advanced problems in the design of commercial and Institutional interiors.

Journalism

INSTRUCTIONAL STAFF 1960-61

Weimer, R. O., Director; Cunningham, H. W.; Davis, H. G.; Griggs, H. H.; Jones, J. P.; Martin, L. J.; Seil, M. D.; Smith, J. A.; Vogel, J. B.; Webb, J. V.

The offerings in Journalism are designed primarily for training professional journalists in newspaper and magazine reporting, writing, and editing, and in public relations. These courses, however, may be taken for elective credit by students in all Upper Division units of the University. Students who are interested in major work in Journalism, Radio, Television, Advertising, and Public Relations also are referred to course offerings under Advertising and Broadcasting and to the requirements of the School of Journalism and Communications.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

JM 101—INTRODUCTION TO NEWS WRITING. 1 credit
May be repeated for an additional credit; maximum 2 credits.
Offered 1, 2. Prerequisite: Must be regularly writing for a newspaper. Open to Lower Division students or to Upper Division students not majoring in Journalism and Communications. News writing and copy reading for beginners. Critique of work.

JM 118—SURVEY OF COMMUNICATIONS. 3 credits
Offered 1, 2. An introduction to the various media of mass communications with special emphasis on newspapers, radio, and television; their requirements and opportunities; and their responsibilities to the public.

JM 201—WRITING FOR MASS COMMUNICATIONS. 3 credits
Offered 1, 2. Prerequisite: C-3. A pre-professional course designed to provide fundamental instruction and practice in writing as a basis for all Upper Division courses in Journalism, Advertising, and Broadcasting.

JM 301—ELEMENTARY REPORTING. 3 credits
Offered 1, 2. Prerequisite: JM 201. Basic instruction and practice in news gathering and news writing, with special attention being given to style and the writing of news leads.

JM 305—TYPOGRAPHY. 2 credits
Offered 1, 2. Processes involved in producing printed matter for newspapers, magazines, pamphlets, advertising, along with detailed study of type and typography.

JM 318—NEWSPAPER MANAGEMENT. 2 credits
Offered 1. A study of the organization of the publishing plant, covering staffing, budgeting, and directing the work of news, classified and display advertising, circulation, promotion, business, and mechanical departments.

JM 325—CONTEMPORARY AFFAIRS. 2 credits
Offered 1, 2. Lectures and discussion of major news developments and their background; current political, economic, social, and scientific developments. Aims to give the student an understanding of world and domestic problems.

JM 340—EDITING. 2 credits
Offered 1, 2. Prerequisite: JM 301 and JM 305. To provide fundamental instruction and practice in essentials of news editing, with special emphasis given to editing the weekly and daily newspaper. Included are copyreading, headline writing, and makeup.

JM 342—PHOTO JOURNALISM. 3 credits
Offered 1, 2. An intermediate course in handling photographic assignments for the printed and broadcast media with special emphasis on editing pictorial material for newspapers and television.

JM 402—ADVANCED REPORTING. 2 credits
Offered 1, 2. Prerequisite: JM 301. Instruction and practice in reporting public affairs, with special emphasis upon responsible news coverage of city, county, and state government.

JM 407—HISTORY OF JOURNALISM. 3 credits
Offered 1, 2. Origin, development and potentiality of printed media, with emphasis on the daily and weekly press. Analysis will be made of the evolution of standards, policies, methods and controls.

JM 413—MAGAZINE AND FEATURE WRITING. 3 credits
Offered 1, 2. Prerequisite: JM 301 or permission of instructor. Preparation of articles for publication in newspapers and magazine coordinated with study of magazine-editing problems. Supervised marketing of articles produced in the course.

JM 414—PUBLIC RELATIONS. 3 credits
Offered 1, 2. Prerequisite: JM 201 or permission of instructor. The relationship between journalism media and the public, and the principles, methods, and means of influencing the public. Public Relations programs will be prepared.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

JM 420—AGRICULTURAL JOURNALISM. 3 credits
Offered 2. Lecture-laboratory. Prerequisite: Junior standing or permission of instructor. Fundamental instruction in the gathering and writing of agricultural news for daily and weekly newspapers, radio, television, and farm periodicals.

JM 425—BUSINESS AND TECHNICAL JOURNALISM. 3 credits
Offered 2. Prerequisite: Senior standing or permission of instructor. Basic instruction covering writing, editing, and production in the area of the trade, business and technical press, with special attention given to style and form for these areas.

JM 430—INDIVIDUAL PROBLEMS IN JOURNALISM. 3 credits
Offered 1, 2. Prerequisites: At least 15 hours of Journalism in the Upper Division and approval of the Director. Designed for seniors in their graduating semester. Students and the instructor concerned will choose a problem or project which will give the student actual experience in his major field.

JM 450—APPLIED JOURNALISM. 3 credits
Offered 1, 2. Prerequisites: JM 340 and JM 402. A senior course bringing together the work of the preceding news courses into actual experience and newsroom training in the preparation and handling of news copy, pictures and syndicated material.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

JM 506—RADIO-TV REPORTING. 3 credits
Offered 1, 2. Prerequisite: 6 hours of professional writing courses. News writing, editing, and processing for the broadcast media.

JM 508—PUBLIC OPINION. 3 credits
Offered 1, 2. Prerequisite: Senior standing or permisssion of the instructor. The force of public opinion in modern life; the measurement of public opinion; propaganda methods, their control and analysis.

JM 509—LAW OF THE PRESS AND RADIO-TV. 3 credits
Offered 1, 2. Prerequisite: JM 201 or permission of instructor. Understanding the law which guarantees and protects the privileges and defines the responsibilities of the mass media. Includes problems of constitutional law, libel, privacy, and governmental regulations.

JM 515—JOURNALISM IN SECONDARY SCHOOLS. 3 credits
Offered 2, 3. Prerequisite: Senior standing or permission of the instructor. This course is designed for persons who plan to teach Journalism in secondary schools, or who act as faculty advisors for school newspapers, magazines, or yearbooks.

JM 560—JOURNALISM SEMINAR. 2 credits
Offered 1, 2. Prerequisite: 15 hours of Journalism. An investigative and discussion approach to advanced problems, policies, and responsibilities found in the various areas of journalism. Field trip required.

GRADUATE COURSES

JM 601—RESEARCH METHODS IN MASS COMMUNICATIONS. 3 credits

JM 602—ADVERTISING RESEARCH PROBLEMS. 3 credits

JM 603—NEWSPAPER PRODUCTION AND MANAGEMENT. 3 credits

JM 605—SEMINAR IN MASS COMMUNICATIONS AND SOCIETY. 3 credits

JM 606—SEMINAR IN MASS COMMUNICATION THEORY. 3 credits

JM 611—SEMINAR IN HISTORY OF COMMUNICATIONS. 3 credits

JM 614—PROBLEMS IN PUBLIC RELATIONS. 3 credits

JM 616—SEMINAR IN JOURNALISM TEACHING. 3 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

JM 618—INTERNATIONAL COMMUNICATIONS. 3 credits

JM 620—INVESTIGATIVE REPORTING. 3 credits

JM 630—INDIVIDUAL WORK. 3 credits

JM 699—RESEARCH AND MASTER'S THESIS. 0 to 6 credits

Landscape Architecture

INSTRUCTIONAL STAFF 1960-61

Lendrum, J. T., Head; Sebold, H. R.

LAE 301, 302, 303, 304—PROJECTS IN LANDSCAPE ARCHITECTURE, GROUP I. 3 credits each; group total, 12 credits
Offered 1, 2. Prerequisite: Completion of Lower Division program in Landscape Architecture or equivalent. The principles involved in landscape design, including form, light, color and texture in relation to plants, materials, and buildings. The preparation of contour maps, grading plans, and the calculation of cut and fill. The history of Landscape Architecture to the decline of the Roman Empire.

LAE 311, 312, 313, 314—PROJECTS IN LANDSCAPE ARCHITECTURE. GROUP 2. 3 credits each; group total 12 credits
Offered 1, 2. A continuation of the work of the series LAE 301, 302, 303, 304. The application of the principles of form, light, color and texture to small landscape design problems. The study of methods of construction in masonry walls, paving and different types of walks. The history of Landscape Architecture from the decline of the Roman Empire to the English Renaissance.

LAE 401, 402, 403, 404—PROJECTS IN LANDSCAPE ARCHITECTURE, GROUP 3. 3 credits each; group total, 12 credits
Offered 1, 2. A continuation of the work of the series LAE 311, 312, 313, 314. The design of landscape schemes, public and private, encountered in contemporary practice; methods of construction involved in terraces, stairways, pools and retaining walls; and the history of Landscape Architecture from the English Renaissance to the present day.

LAE 411, 412, 413, 414—PROJECTS IN LANDSCAPE ARCHITECTURE, GROUP 4. 3 credits each; group total, 12 credits
Offered 1, 2. A continuation of the work of the series LAE 401, 402, 403, 404. The series includes: the design of large landscape schemes; a study of professional relations; and modern landscape practice, ethics, and law.

LAE 421—SITE PLANNING FOR ARCHITECTS. 3 credits
Offered 1. Prerequisite: AE 381 and fourth year standing in Architecture. Not open to LAE majors for credit. A course designed for architectural students who wish to develop a knowledge of site planing as based upon the inter-relationship of structure, ground planes, sections and profiles.

Latin

INSTRUCTIONAL STAFF 1960-61

Brunet, J., Head; Aratowsky, B.

The undergraduate major must include LN 307, 308, LN 599, composition, six hours and LN 599, literature, six hours. In addition, the major must include, as a subsidiary requirement, FLE 351, FLE 352 and six semester hours of one or more foreign languages other than the major.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

LN 105—THE LATIN ELEMENT IN ENGLISH. 2 credits
Offered 1. Latin words in current English, including scientific vocabularies. No previous knowledge of Latin required. May not be used for major credit.

LN 111—ROMAN LIFE AND LETTERS—ANCIENT MYTHOLOGY. 2 credits
The development, importance and influence of Greco-Roman Mythology. The main Latin and Greek literary sources read in translation, and archaeological evidence reviewed.

LN 133—FIRST-YEAR LATIN. 3 credits
Offered 1.

LN 134—FIRST-YEAR LATIN. 3 credits
Offered 2. Prerequisite LN 133, or the equivalent

LN 201—SECOND-YEAR LATIN. 3 credits
Offered 1. Prerequisite: LN 134, or the equivalent. Reading and interpretation of selections from Roman prose and poetry. Grammar study.

LN 202—SECOND-YEAR LATIN. 3 credits
Offered 2. Prerequisite: LN 201, or the equivalent.

LN 307—SURVEY OF LATIN LITERATURE. 3 credits
Offered 1. Prerequisite: LN 202, or the equivalent. Translation, interpretation and discussion of texts from Latin authors. Collateral readings and reports.

LN 308—SURVEY OF LATIN LITERATURE. 3 credits
Offered 2. Prerequisite: LN 202, or the equivalent.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

LN 599—SPECIAL STUDY IN LATIN. 3 credits
Prerequisite: LN 307, 308, or the equivalent. Available for graduate major credit. Topics for which there are no special course offerings. With change of content, may be elected for additional credit.

GRADUATE COURSES

LN 600—SPECIAL STUDY IN LATIN LITERATURE. 3 credits

LN 617—VULGAR LATIN. 3 credits

LN 620—THE LATIN LANGUAGE: PHONOLOGY AND MORPHOLOGY. 3 credits

LN 621—THE LATIN LANGUAGE: SYNTAX. 3 credits

LN 630—INDIVIDUAL WORK. 3 credits

Law

For description of the courses offered by the College of Law, see the College of Law Bulletin.

Library Science

INSTRUCTIONAL STAFF 1960-61

West, S. L., Head; Parsons, M. A.; Francis E. S.; Harkins, W. G.; Knox, M. E.; Liles, A. L.; Gray, C. F.; Prince, V. C.

LY 200—HISTORY OF BOOKS AND PRINTING. 2 credits
Offered 1, 2. The book and the invention of printing in the development of Western culture and society.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

LY 201—USES OF BOOKS AND LIBRARIES. 1 credit
Offered 1, 2. Detailed study of the basic and most useful reference books and bibliographic aids. Practice problems in the use of specific titles and in how to find materials in the library will be given.

LY 301—INTRODUCTION TO LIBRARY MATERIALS. 3 credits
Offered 1. Principles and methods of evaluating and selecting books and other library materials and their use for reference and instructional purposes.

LY 320—LIBRARY ADMINISTRATION. 3 credits
Offered 1. A study of the principles of organization and administration as applied to school, public, and academic libraries.

LY 321—SCHOOL LIBRARY ADMINISTRATION. 3 credits
Offered 2. Study of effective organization and administration of the school library through which the librarian contributes to the development of the total school program.

LY 402— BASIC REFERENCE MATERIALS. 3 credits
Offered 2. Prerequisite: LY 301. A study of the basic types of reference materials—encyclopedia, dictionaries, yearbooks, periodical indexes, bibliographies—with practice in the use of these materials.

LY 404—CLASSIFICATION AND CATALOGING. 3 credits
Offered 1. Classroom and laboratory practice in the basic procedures of acquisition, preparation and processing of materials for library service in relation to the school and other agencies which the library serves.

LY 430—INDIVIDUAL WORK. 3 credits
Offered 1, 2. Prerequisites: LY 402 or LY 404 and permission of the department head. By means of this course students may enroll for advanced work in reference and/or advanced study of procedures of acquisitions, and processing of materials for library service.

Management and Business Law

Wilmot, W. V. Jr., Head; Bangs, J. R.; di Roccaferrera, G. M. F.; Fox, W. M.; Gaitanis, L. A.; Hintermister, J. H.; Jordan, L. A.; Niemela, R. W.; Oliver, C. Jr.; Phillips, H. R.; Unger, M. A.; Wyatt, J. W.

Courses numbered 300 or higher are open only to students with junior standing or above. Courses numbered below 300 are not open to students with 4BA classification. Note, however, the specific prerequisite for certain courses.

MGT 271—PRINCIPLES OF MANAGEMENT. 3 credits
Offered 1, 2, 3. Fundamentals of management underlying the solution of problems of organization and operation of business enterprises.

MGT 373—PERSONNEL MANAGEMENT. 3 credits
Offered 1, 2, 3. A comparison and evaluation of public and private personnel practices and techniques of recruiting, selecting, transferring, promoting, classifying and training workers.

MGT 374—OFFICE MANAGEMENT. 3 credits
Offered 2. The fundamentals of office organization, layout, record keeping, clerical operations, management of office personnel, and control of output.

MGT 375—FOOD PLANNING AND MANAGEMENT. 3 credits
Offered 1. (Open only to majors in Resort and Club Management.) A study of the fundamentals in food purchasing, preparation, handling and serving.

MGT 401—BUSINESS LAW. 3 credits
Offered 1, 2, 3. Introduction to Law. Contracts: elements, third parties, discharge remedy; sales and conditional sales; negotiable instruments; kinds, holders, defenses, discharge.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

MGT 402—BUSINESS LAW. 3 credits
Offered 1, 2, 3. Prerequisite: MGT 401. Personal property; bailments: classification, termination; business organizations; agency: creation, relation of parties, termination; partnership: creation, rights, and remedies; corporations: creation, powers, stock.

MGT 403—BUSINESS LAW. 3 credits
Offered 1, 2. Bankruptcy; real property; mortgages (chattel and real); insurance; suretyship; torts; trusts. C.P.A. law review.

MGT 469—MANAGERIAL OPERATIONS ANALYSIS I. 3 credits
Offered 1, 2, and 3. Prerequisite: MS 207 and 6 credits in statistics. Introductory survey of input-output analysis, linear programming, and the theory of games and their application in business decision-making.

MGT 471—PRINCIPLES OF ORGANIZATION. 3 credits
Offered 1, 2, 3. The process of combining the factors of production through a functional structure to achieve enterprise objectives.

MGT 472—COLLECTIVE BARGAINING. 3 credits
Offered 1, 2. Prerequisite: MGT 373 or MGT 473 or consent of instructor. The practice and techniques of collective bargaining with respect to the inter-relationships of the individual worker, the union, the employer, and the general public.

MGT 473—PROBLEMS IN PERSONNEL MANAGEMENT. 3 credits
Offered 1. Prerequisite: MGT 471 or consent of instructor. Personnel practices and interpersonal relationships involved in managing employees.

MGT 475—RESORT AND CLUB MANAGEMENT. 3 credits
Offered 2. (Open only to majors in Resort and Club Management.) A study of the organization, management, and operation of private clubs covering all phases of managerial administration.

MGT 575—PRODUCTION MANAGEMENT PROBLEMS. 3 credits
Offered 1. Problems in the management of industrial enterprise. Management principles and mathematical analysis applied to manufacturing; product development and production; materials and production control; employee relations.

MGT 576—MANAGERIAL OPERATIONS ANALYSIS II. 3 credits
Offered 2. Prerequisite: MGT 469 or MGT 575 or permission of instructor. Case studies of managerial applications of modern techniques of mathematical programming, statistical analysis, and economic analysis.

GRADUATE COURSES

MGT 601—BUSINESS LIABILITIES. 3 credits

MGT 673—PROBLEMS IN COLLECTIVE BARGAINING. 3 credits

MGT 676—THEORY OF MANAGERIAL ORGANIZATION AND CONTROL. 3 credits

MGT 677—PERSONNEL TECHNIQUES AND ADMINISTRATION. 3 credits

MGT 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

Marketing

INSTRUCTIONAL STAFF 1960-61

Butterworth, J. D., Head; Goodwin, F.; Grey, J. B., Jr.; Sims, G. R.; Stanley, R. E.; Thompson, R. B.; Vreeland, R. C.; Yoder, L. C.

Courses numbered below 300 are not open to students with 4BA classification. Courses numbered 300 or higher are open only to students with junior standing. Note, however, the specific prerequisites for certain courses.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

MKG 233—SALESMANSHIP. 3 credits
Offered 1, 2, 3. An introduction to selling. Analysis of types, stages and problems of psychology of sale situations.

MKG 331—PRINCIPLES OF MARKETING. 3 credits
Offered 1, 2, 3. Prerequisite: ES 201. Functions, institutions, and methods of marketing goods and services. Relates Marketing to the total economic structure and emphasizes the importance of the consumer.

MKG 333—ADVERTISING. 3 credits
Offered 1, 2, 3. The role of advertising in a free economy; groundwork activities; preparation and production of advertisements; media selection; testing advertising effectiveness.

MKG 334—SALES MANAGEMENT. 3 credits
Offered 1, 2. Prerequisite: MKG 331. Principles, methods, and problems relating to the management of a sales force. Selection and training, organization, compensation and stimulation, and control.

MKG 430—WHOLESALING. 3 credits
Offered 1. Prerequisite: MKG 331. Nature of wholesaling, modern wholesaling systems, organization and management of wholesale businesses, economic aspects and trends in wholesaling.

MKG 434—ADVERTISING PROBLEMS. 3 credits
Offered 2. Prerequisite: MKG 333. A case course dealing with advertising problems, policies, and procedures; coordination of advertising and other marketing functions.

MKG 436—CREDIT AND COLLECTIONS. 3 credits
Offered 1, 2. Principles and practices in the administration of consumer and mercantile credit.

MKG 437—RETAILING. 3 credits
Offered 1, 2. Prerequisite: MKG 331. The fundamentals of retailing; problems, policies, trends and procedures in retail distribution.

MKG 438—SALES AND MARKET ANALYSIS. 3 credits
Offered 1, 2. Prerequisites: MKG 331, ES 366. Research methods applied to marketing; introduction to sampling; collection, analysis, and reporting of data; survey of sales forecasting, market analysis, distribution cost analysis.

MKG 439—MARKETING PROBLEMS. 3 credits
Offered 1, 2. Prerequisites: MKG 437 and one additional marketing course other than MKG 233 or MKG 331. Case study of marketing policies and methods, including product development, channels of distribution, advertising and promotion, sales management, brand policies, and pricing.

MKG 450—RETAIL MANAGEMENT. 3 credits
Offered 2. Prerequisite: MKG 437. A case course designed to train students in the analysis and solution of retail merchandising and operating problems.

MKG 459—FIELD WORK IN MARKETING. Variable Credit
Offered 3. Designed for those who wish to combine work experience during Summer Session with academic credit. Open only to Marketing majors. Prior approval of Department required.

MKG 531—MARKETING PRINCIPLES AND INSTITUTIONS. 3 credits
Offered 1, 3. A descriptive and analytical approach to the study of marketing institutions and functions. Required of, but not limited to, all candidates for the Master of Business Administration degree who have not had a basic marketing course.

GRADUATE COURSES

MKG 611—MERCANTILE AND CONSUMER CREDIT MANAGEMENT. 3 credits

MKG 630—INDIVIDUAL WORK. 3 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

MKG 634—PROBLEMS OF SALES MANAGEMENT. 3 credits

MKG 635—ADVANCED MARKETING PRINCIPLES. 3 credits

MKG 637—PROBLEMS IN RETAIL STORE MANAGEMENT. 3 credits

MKG 638—RESEARCH METHODS AND PROBLEMS IN THE MARKETING AND ADVERTISING OF MANUFACTURED GOODS. 3 credits

MKG 639—SEMINAR IN MARKETING MANAGEMENT. 3 credits

MKG 699—MASTER'S THESIS. 0 to 6 credits, Maximum 12 credits

Mathematics

INSTRUCTIONAL STAFF 1960-61

Maxfield, J. E., Head; Awtrey, R. A.; Blake, R. G.; Cowan, R. W.; Day, J. M.; Gaddum, J. W.; Gager, W. A.; Gentry, R. V.; Hadlock, E. H.; Hill, N. W.; Hutcherson, W. R.; Jung, P. S.; Kenelly, J. W.; Lewis, K.; Lorenzen, F. J.; Meyer, H. A.; Minc, H.; Moore, J. T.; Moore, T. O.; Morales, J. A.; Morse, W. P.; Myers, F. C.; Patterson, P. B.; Pirenian, Z. M.; Row, A. W.; Sadler, S. G.; Savage, R. G.; Sellers, R. E.; Smith, C. B.; South, D. E.; Tilley, J. L.; Tucker, W. B.; Willard, D.

MS 109—ELEMENTS OF MATHEMATICS. 3 credits
Offered 1, 2, 3. This course will offer a detailed study of the concepts, principles and procedures basic to arithmetic and algebra.

MS 205—BASIC MATHEMATICS. 3 credits
Offered 1, 2, 3. Prerequisite: Three years of mathematics in high school or MS 109. College algebra and trigonometry.

MS 206—BASIC MATHEMATICS FOR ENGINEERING AND THE PHYSICAL SCIENCES. 5 credits
Offered 1, 2, 3. Prerequisite: MS 205 or superior standing at entrance. This course is the start of an integrated course in analytic geometry and the calculus with examples drawn primarily from engineering and the physical sciences. Not open for credit for students who have taken MS 207.

MS 207—BASIC MATHEMATICS FOR THE SOCIAL SCIENCES. 5 credits
Offered 1, 2, 3. Prerequisite: MS 205 or superior standing at entrance. This course presents the basic material that the social scientists need in algebra, analytic geometry and the calculus of polynomials (with examples from the social sciences and business) to be able to understand much of the work now being done in these fields. This course is a satisfactory preparation for MS 353 (Differential Calculus).

MS 300—MATHEMATICS FOR ELEMENTARY TEACHERS. 3 credits
Offered 2, 3. Prerequisite: C-42 or some elementary teaching experience. For teachers and prospective teachers of mathematics in grades through 6. Not open to students who have completed more than two semesters of college mathematics.

MS 308—MATHEMATICS OF FINANCE. 3 credits
Offered 2. One year of college mathematics. An algebraic treatment of compound interest, annuities, bonds and contracts, depreciation and depletion, sinking funds and amortization of debts, and life insurance mathematics are studied.

MS 310—STATISTICAL METHODS. 3 credits
Offered 1, 2, 3. Prerequisite: MS 205 or equivalent. Presents the bases of various statistical procedures. Frequency distributions; moments; normal distribution; regression and correlation analysis. Applications of Chi-square, Student's t and F distributions.

MS 311—ADVANCED COLLEGE ALGEBRA. 3 credits
Offered 1. Prerequisite: MS 205 or equivalent. An abstract treatment of polynomials, the theory of equations, and systems of linear equations.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

MS 315—MODERN ALGEBRA FOR TEACHERS. 3 credits
Offered by extension only in conjunction with the nationally televised "Continental Classroom." Selected topics in the natural numbers, theory of sets, and theory of vector spaces, intended primarily for high school science and mathematics teachers. Students will be required to view all sessions.

MS 326—ADVANCED GENERAL MATHEMATICS. 2 credits
Offered by extension only. Not counted toward a mathematics major in the College of Arts and Sciences. Plane geometry with its relationship with algebra.

MS 331—COLLEGE GEOMETRY. 5 credits
Offered 2, 3. Prerequisite: Plane geometry or MS 326 by extension. Advanced plane geometry, certain non-Euclidean geometries, elementary solid geometry, and the geometry of sets.

MS 350—MATHEMATICS FOR JUNIOR HIGH SCHOOL TEACHERS. 3 credits
Offered 1, 3. For in-service teachers of mathematics in grades 7 through 9, and for those who wish either to expand their background or secure new materials for better teaching.

MS 353—DIFFERENTIAL CALCULUS. 5 credits
Offered 1, 2, 3. Prerequisite: MS 206 or MS 207. Differentiation and integration with applications to rates of change, computation of areas, volumes, moments of inertia, work done, and many others. Various advanced topics of special value to engineers and scientists. Open to University College students.

MS 354—INTEGRAL CALCULUS. 3 credits
Offered 1, 2, 3. Prerequisite: MS 353 or its equivalent. The second half of the course MS 353-354.

MS 359—ELEMENTARY PROBABILITY. 3 credits
Offered 1, 3. Prerequisite: MS 353. Elementary probability and its applications.

MS 400—MATHEMATICS FOR SENIOR HIGH SCHOOL TEACHERS. 3 credits
Offered 2, 3. Prerequisite: Ten semester hours of college mathematics. Structural nature of number systems; different bases. Groups. Fields. Postulational aspects of algebra, plane and analytic geometry, and trigonometry. Basic and enrichment work in series, probability, statistics and calculus.

MS 411—SURVEY OF MODERN ALGEBRA. 3 credits
Offered 1, 3. Prerequisite: MS 205 or equivalent. An introduction to abstract algebra: groups, rings, integral domains, fields and vector spaces.

MS 412—INTRODUCTION TO MATRIX THEORY. 3 credits
Offered 2. Prerequisite: MS 206 or MS 207. Vectors, algebra of matrices, characteristic values, hermitian and unitary matrices.

MS 420—DIFFERENTIAL EQUATIONS. 3 credits
Offered 1, 2, 3. Prerequisite: MS 354. Classification, solution and applications of various equations which contain expressions involving not only variables, but also the derivatives of these variables. Not open for credit to students who have taken MS 521.

MS 423—MATHEMATICS FOR ELECTRICAL ENGINEERS. 3 credits
Offered 1, 2. Prerequisite: MS 354. For electrical engineering majors who do not take MS 521 and MS 522. Differential equations, vector analysis, the Laplace transform, and other selected topics from advanced mathematics applicable to the field of electrical engineering. Not available to students who have credit for one or more of the courses MS 420, MS 521 and MS 522 or their equivalent.

MS 430—INDIVIDUAL WORK. 3 credits
Offered 1, 2, 3. Prerequisite: MS 354 and permission of Head of Department. For undergraduate work needed by the student and not obtainable in the regular course offerings.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

MS 460—INTRODUCTION TO NUMERICAL METHODS. 3 credits
Offered 2. Prerequisite: MS 420, MS 423, MS 521 or equivalent. Interpolation, extrapolation; numerical integration and differentiation; solution of ordinary and differential equations; numerical harmonic analysis.

MS 463—QUALITY CONTROL. 3 credits
Offered 1, 2. The interpretation of engineering and industrial data by means of statistical methods. The use of control charts.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

MS 501—INTRODUCTION TO MATHEMATICAL THOUGHT. 3 credits
Offered 1, 2, 3. Available for graduate major credit. The structure of mathematics. Axiomatic methods. Sets. Transfinite arithmetic. Linear continuum; the real number system. Groups. Generalizations of classical mathematics. Mathematics philosophies.

MS 510—MATHEMATICAL STATISTICS. 3 credits
Offered 1, 2, 3. Prerequisite: MS 354. Available for graduate major credit. Introduction to Probability; distribution functions and moment-generating functions; frequency distribution of two variables; development and some applications of the Chi-square, Student's t and F distributions.

MS 521—HIGHER MATHEMATICS FOR ENGINEERS AND PHYSICISTS, 3 credits
Offered 1, 2, 3. Prerequisite: MS 354. The first third of the course MS 521, 522, 523. Not open for credit to students who have taken MS 420. Available for graduate major credit. Ordinary differential equations with emphasis on numerical methods and series solutions; the Laplace transform; boundary value problems; orthogonal functions, vector analysis, partial differential equations, functions of a complex variable.

MS 522—HIGHER MATHEMATICS FOR ENGINEERS AND PHYSICISTS. 3 credits
Offered 1, 2, 3. Prerequisite: MS 521 or MS 420. The middle third of MS 521, 522, 523. Available for graduate major credit.

MS 523—HIGHER MATHEMATICS FOR ENGINEERS AND PHYSICISTS. 3 credits
Offered 1, 2, 3. Prerequisite: MS 420, or 423 or MS 521. The last third of MS 521, 522, 523. Available for graduate major credit.

MS 539—PARTIAL DIFFERENTIAL EQUATIONS. 3 credits
Offered 1. Available for graduate major credit. Origin and solutions of partial differential equations by various methods including Lagrange linear equations; Charpit's and Jacobi's methods of solving non-linear first order equations.

MS 551—ADVANCED TOPICS IN CALCULUS. 3 credits
Offered 1, 3. Available for graduate major credit. Topics in advanced nature selected from the calculus, including partial differentiation. Taylor's theorem, infinite series, continuation of simple multiple integrals, line and surface integrals, and Green's theorem.

MS 552—ADVANCED TOPICS IN CALCULUS. 3 credits
Offered 2. The second half of the course MS 551, 552. Available for graduating major credit.

MS 561—INTRODUCTION TO TOPOLOGY. 3 credits
Offered 1, 3. Prerequisite: MS 354. Available for graduate major credit. Set theory; the real line, topological spaces, topological notions; Heine-Borel Theorem; mappings, continuous and homeomorphisms; Hausdorff spaces; metric spaces; the Euclidean spaces.

GRADUATE COURSES

MS 603—INTRODUCTION TO APPLIED MATHEMATICS. 3 credits

MS 604—INTRODUCTION TO APPLIED MATHEMATICS. 3 credits

MS 607—TENSOR ANALYSIS. 3 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

MS 610—MATHEMATICAL LOGIC. 3 credits

MS 611—ABSTRACT ALGEBRA I. 3 credits

MS 612—ABSTRACT ALGEBRA II. 3 credits

MS 613—THEORY OF GROUPS. 3 credits

MS 615—THEORY OF NUMBERS. 3 credits

MS 619—STATISTICAL THEORY I. 3 credits

MS 620—STATISTICAL THEORY II. 3 credits

MS 621—NUMERICAL ANALYSIS. 3 credits

MS 622—FINITE DIFFERENCES AND INTERPOLATION. 3 credits

MS 624—SYNTHETIC PROJECTIVE GEOMETRY. 3 credits

MS 630—INDIVIDUAL WORK. 3 credits

MS 634—ANALYTIC PROJECTIVE GEOMETRY. 3 credits

MS 636—FOUNDATIONS OF GEOMETRY. 3 credits

MS 640—FOURIER SERIES. 3 credits

MS 653—CALCULUS OF VARIATIONS. 3 credits

MS 655—FUNCTIONS OF A COMPLEX VARIABLE I. 3 credits

MS 656—FUNCTIONS OF A COMPLEX VARIABLE II. 3 credits

MS 659—FUNCTIONS OF REAL VARIABLES I. 3 credits

MS 660—FUNCTIONS OF REAL VARIABLES II. 3 credits

MS 661—GENERAL TOPOLOGY I. 3 credits

MS 662—GENERAL TOPOLOGY II. 3 credits

MS 668—HISTORY OF ELEMENTARY MATHEMATICS. 3 credits

MS 690—SPECIAL TOPICS IN MATHEMATICS. 3 credits

MS 691—SEMINAR. 1 credit

MS 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

MS 711—LINEAR ALGEBRA AND MATRIX THEORY I. 3 credits

MS 712—LINEAR ALGEBRA AND MATRIX THEORY II. 3 credits

MS 715—ADVANCED THEORY OF NUMBERS. 3 credits

MS 725—ECONOMETRICS I. 3 credits

MS 726—ECONOMETRICS II. 3 credits

MS 745—MATHEMATICAL THEORY OF ELASTICITY. 3 credits

MS 746—MATHEMATICAL THEORY OF ELASTICITY. 3 credits

MS 799—DOCTORAL DISSERTATION. 1 to 12 credits

Mechanical Engineering

INSTRUCTIONAL STAFF 1960-61

Reed, J. C., Head; Bourke, N.; Buteau, L. J.; Crowe, M. O'L.; DeHoff, R. T.; Farber, E. A.; Flanigan, F. M.; Freeman, W. L.; Gonzalez, J. O.; Gould, R. W.; Guy, A. G.; Kronsbein, J.; Lewis, E. H.; Patterson, E. P.; Pennington, C. W.; Prescott, F. L.; Progelhof, R. C.; Rhines, F. N.; Samuel, J. A.; Schoessow, G. J.; Scott, L. A.; *Sholtes, R. S.; Smith, W. O. Tiffin, W. T.

ML 283—ELEMENTARY DESIGN. 3 credits
Offered 1, 2. Prerequisite: EGR 282. The construction of industrial machine drawings. The application of the principles of mechanism in the design of simple machinery.

ML 377—MANUFACTURING PROCESSES. 4 credits
Offered 1, 2, 3. Prerequisite: MS 106, EGR 182. Machinery, materials and processes used in manufacturing.

ML 381—THERMODYNAMICS OF HEAT POWER. 3 credits
Offered 1, 2, 3. Prerequisites: MS 354, PS 206. For *students not majoring in Mechanical Engineering*. The fundamental of steam power plants, internal combustion engines, and compressed air machinery.

ML 384—METALLOGRAPHY AND HEAT TREATMENT. 3 credits
Offered 1, 2, 3. Prerequisites: CY 217 and CY 218, Upper Division Classification. The structure of metals and alloys relation to Mechanical and Physical properties.

ML 385—THERMODYNAMICS I. 3 credits
Offered 1, 2, 3. Prerequisites: MS 354, PS 206, CY 218. Energy equations and availability of energy; gases, vapors, and mixtures; engineering applications in flow of fluids, vapor power cycles.

ML 387—MECHANICAL LABORATORY I. 1 credit
Offered 1, 2, 3. Corequisite: ML 385. Preparation on engineering reports, computation aids, the measurement of area, speed, pressure, temperature and fluid flow.

ML 390—THERMODYNAMICS II. 3 credits
Offered 1, 2. Prerequisite: ML 385. Fuels and combustion; heat transfer; vapor power cycles; steam engines; steam and gas turbines; internal combustion cycles; gas compression; refrigeration cycles.

ML 391—METALLURGY LABORATORY I. 1 credit
Offered 1. Prerequisites: CY 217, CY 218, plus upper division classification. Introduction to laboratory techniques of Physical Metallurgy. Subject matter to include experience and practice in metallography, X-ray, crystallography, radiography, spectroscopy.

ML 392—METALLURGY LABORATORY II. 1 credit
Offered 2. Prerequisite: ML 391. Continuation of ML 391. Includes pyrometry, mechanical testing of metals and alloys, mechanical forming, heat treating and dilatometry.

ML 430—INDUSTRIAL HEAT TRANSFER. 3 credits
Offered 1, 2. Prerequisites: MS 354, ML 385. Fundamentals of heat transfer; steady and unsteady conduction, convection, boiling, condensation, and radiation.

ML 445—MECHANICAL ENGINEERING PROBLEMS. 3 credits
Offered 1, 2. Prerequisite: MS 420. Application of mathematical solutions to physical engineering, situations.

ML 453—STRUCTURE OF METALS I. 3 credits
Offered 1. Prerequisite: ML 384. Fundamentals of X-ray Generation and Application. Metallurgy; radiography, diffraction, fluorescent analysis, stress measurement.

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*On leave.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

ML 454—STRUCTURE OF METALS II. 3 credits
Offered 2. Prerequisite: ML 453. Continuation of ML 453.

ML 463—PROBLEMS IN METALLURGY I. 3 credits
Offered 1. Prerequisite: ML 384. Short Research Problems in Physical Metallurgy.

ML 464. PROBLEMS IN METALLURGY II. 3 credits
Offered 2. Prerequisite: ML 463. Continuation of ML 463.

ML 465—METALS AND ALLOYS I. 3 credits
Offered 1. Prerequisite ML 384. Physical Metallurgy of ferrous and non-ferrous metals and their alloys. A correlation of properties, structural and mechanical history, thermal history, and service behavior of the various metals and their alloys.

ML 466—METAL AND ALLOYS II. 3 credits
Offered 2. Prerequisite: ML 465. Continuation of ML 465.

ML 473—SEMINAR. 1 credit
Offered 1, 2. Presentation of papers on current developments in mechanical engineering.

ML 474—SEMINAR. 1 credit
Offered 1, 2. The second half of the course ML 473-474.

ML 481—INTERNAL COMBUSTION ENGINES. 3 credits
Offered 1, 2. Prerequisite: ML 385. Gas and liquid fuels, internal combustion engines and gas turbines. Automotive, aircraft, and Diesel power plants.

ML 482—REFRIGERATION AND AIR CONDITIONING. 3 credits
Offered 1, 2. Prerequisite: ML 381 or ML 385. Refrigerating and air conditioning apparatus and their applications to the industrial, commercial and residential fields.

ML 483—INTERNAL COMBUSTION ENGINE LABORATORY. 1 credit
Offered 1, 2. Prerequisite: ML 387; Corequisite: ML 481. Testing of lubricants, gasoline, automobile engines, aircraft engines, and high and low speed Diesel engines.

ML 484—REFRIGERATION AND AIR CONDITIONING LABORATORY. 1 credit.
Offered 1, 2. Prerequisite: ML 387; Corequisite: ML 482. Performance tests on air conditioning and refrigeration equipment. AC system design.

ML 486—POWER ENGINEERING. 3 credits
Offered 1, 2. Prerequisites: ML 390, EM 313. Steam and Diesel engine power plants and their auxiliary equipment.

ML 488—MECHANICAL LABORATORY II. 1 credit
Offered 1, 2. Prerequisite: ML 387. Corequisite: ML 486. Analysis of fuels, heating value, flue gas analysis, and the testing of boilers, turbines, engines and steam plant auxiliary apparatus.

ML 489—MANUFACTURING OPERATIONS I. 3 credits
Offered 1, 2, 3. Prerequisite: U.D. Classification. Machinery, materials, and processes used in manufacturing.

MY 490—MANUFACTURING OPERATIONS II. 3 credits
Offered 1, 2. Prerequisite: Upper Division Classification. Machinery, materials, and processes used in manufacturing.

ML 491—MACHINE DESIGN I. 4 credits
Offered 1, 2. Prerequisites: ML 283, EM 366, EM 367. Stress analysis of machine elements, design procedure, design of machine elements.

ML 492—MACHINE DESIGN II. 3 credits
Offered 1, 2. Prerequisite: ML 491. Advanced problems in design, and the design of a complete machine.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

ML 495—PROCESS METALLURGY I. 3 credits
Offered 1. Prerequisites: PS 206, CY 218. Unit operations of process metallurgy including: comminution, classification, flotation, stoichiometry, heat balances, fuels and heat utilization.

ML 496—PROCESS METALLURGY II. 3 credits
Offered 2. Prerequisite: ML 495. Principles of pyrometallurgy, hydrometallurgy and electrometallurgy, with applications to specific ferrous and non-ferrous metals.

ML 510—NUCLEAR POWER REACTORS. 3 credits
Offered 1. Prerquisite: NR 400. A study of various types of nuclear reactors for power generation. Problems of design and construction. Materials of construction and their particular importance in nuclear reactors. Heat transfer and cooling systems.

ML 530—THERMODYNAMICS FOR NUCLEAR ENGINEERS. 3 credits
Offered 1, 2. Prerequisites: 1 year physics and 1 year chemistry. Fundamental concepts, laws properties of fluids, characteristics of gases, the flow of fluids, vapor power cycles, turbines.

ML 550—MECHANICAL METALLURGY. 3 credits
Offered 1, 2. Prerequisites: EM 367, ML 453. A study of the crystallographic mechanisms of plastic deformation and fracture in metals and alloys.

ML 553—CHEMICAL METALLURGY. 3 credits
Offered 2. Prerequisite: ML 390. Principles of thermodynamics applied to slag-metal equilibria, corrosion, diffusion, oxidation, nucleation and growth, and other metallurgical processes.

ML 555—X-RAY SPECTROCHEMICAL ANALYSIS. 3 credits
Offered 1. Prerequisites: CY 218, PS 303, MS 354. The application of X-ray fluorescence and techniques to analytical chemistry, metallurgy and mineralogy.

ML 561—SOLAR ENERGY UTILIZATION. 3 credits
Offered 1, 2. Prerequisite: ML 430. A study of solar energy, its availability, characteristics and power distillation, solar furnaces, and photochemical utilization.

ML 570—METALLURGY FOR NUCLEAR ENGINEERS. 3 credits
Offered 1, 2. Prerequisites: one year of college chemistry, physics, and mathematics.
Crystalline nature of metals, of alloying, diffusion, hardening, solid state metallurgy, corrosion, reactor materials.

ML 593—MECHANICAL DESIGN I. 3 credits
Offered 1. Selected problems in design.

ML 594—MECHANICAL DESIGN II. 3 credits
Offered 2. Selected problems in design

GRADUATE COURSES

ML 652—THERMODYNAMICS OF FLUID FLOW I. 3 credits

ML 653—THERMODYNAMICS OF FLUID FLOW II. 3 credits

ML 655—ADVANCED HEAT TRANSFER I. 3 credits

ML 656—ADVANCED HEAT TRANSFER II. 3 credits

ML 660—KINETIC AND STATISTICAL THEORY. 3 credits

ML 661—APPLIED THERMODYNAMICS OF IRREVERSIBLE PROCESSES. 3 credits

ML 662—REFRIGERATION BY MEANS OF THERMOELECTRIC ELEMENTS. 3 credits

ML 664-665—COMBUSTION I and II. 3 credits each

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

ML 666—SPECIAL TOPICS IN SOLAR ENERGY. Credits variable 1 to 6

ML 671—ADVANCED PHYSICAL METALLURGY I. 3 credits

ML 672—ADVANCED PHYSICAL METALLURGY II. 3 credits

ML 673—X-RAY METALLOGRAPHY. 3 credits

ML 674—ADVANCED MECHANICAL METALLURGY. 3 credits

ML 676—THEORY AND PROPERTIES OF METALS AND ALLOYS I. 3 credits

ML 677—THEORY AND PROPERTIES OF METALS AND ALLOYS II. 3 credits

ML 678—ADVANCED PHASE DIAGRAMS. 3 credits

ML 679—METALLURGICAL THERMODYNAMICS. 3 credits

ML 681—VIBRATIONS. 3 credits

ML 682—ADVANCED MECHANISMS AND KINEMATICS. 3 credits

ML 683—MECHANICAL RESEARCH I. Variable credit

ML 684—MECHANICAL RESEARCH II. Variable credit

ML 685—ADVANCED AIR CONDITIONING. 3 credits

ML 686—ADVANCED ENGINEERING THERMODYNAMICS. 3 credits

ML 687—ADVANCED REFRIGERATION. 3 credits

ML 689—ADVANCED MECHANICAL LABORATORY I. 3 credits

ML 690—ADVANCED MECHANICAL LABORATORY II. 3 credits

ML 691—GAS TURBINES AND JET ENGINES. 3 credits

ML 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

Medical Technology

INSTRUCTIONAL STAFF 1960-61

Dubowski, K. M., Head; Slotnick, I. J.

See also course offerings under Health Related Services (HRS).

MET 305—FUNDAMENTALS OF MEDICAL TECHNOLOGY. 2 credits
Offered 1. Prerequisites: CY 362; PS 109-110; BLY 181; CY 331 or consent of the instructor. An introduction to clinical laboratory procedures emphasizing scientific principles and basic skills.

MET 306—FUNDAMENTALS OF MEDICAL TECHNOLOGY. 2 credits
Offered 2. Prerequisite: MET 305. The second half of the course MET 305-306.

MET 411—CLINICAL LABORATORY METHODOLOGY. 3 credits
Offered 1. Prerequisite: MET 306. Corequisite: MET 415. The theory and technique of clinical laboratory practice in clinical chemistry and toxicology; hematology; microbiology; microscopy and urinalysis; serology; histologic technique; immunology and blood banking; special procedures. Clinical laboratory organization, administration, management.

MET 412—CLINICAL LABORATORY METHODOLOGY. 3 credits
Offered 2. Prerequisite: MET 411. Corequisite: MET 416. The second half of the course MET 411-412.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

MET 415—CLINICAL LABORATORY PRACTICUM. 12 credits
Offered 1. Prerequisite: MET 306. Corequisite: MET 411. Demonstrations and practical clinical laboratory training during progressive rotation through the clinical laboratory areas listed in MET 411.

MET 416—CLINICAL LABORATORY PRACTICUM. 12 credits
Offered 2. Prerequisite: MET 415. Corequisite: MET 412. The second half of the course MET 415-416.

MET 431—SEMINAR IN CLINICAL LABORATORY PROBLEMS. 1 credit
Offered 1. Prerequisite: MET 306. Selected topics in clinical laboratory methodology; laboratory organization, administration and management; current research, developments, literature; related areas.

MET 432—SEMINAR IN CLINICAL LABORATORY PROBLEMS. 1 credit
Offered 2. Prerequisite: MET 306. A continuation of MET 431.

Medicine

For descriptions of the courses offered by the College of Medicine, see the Bulletin of the College of Medicine and the Graduate Bulletin. Undergraduate courses in biochemistry are listed in this catalog under biochemistry.

Meteorology

INSTRUCTIONAL STAFF 1960-61

Ballard, S. S., Head; Bunting, D. C.

MTY 200—GENERAL METEOROLOGY. 3 credits
Offered 2. Prerequisite: C-21 or one year of college physics. Basic principles of modern meteorology, designed to give an insight into the physical processes underlying the phenomena of weather and climate.

Military Science Air Force ROTC

INSTRUCTIONAL STAFF 1960-61

Smith, Vernon S. Sr., Col., PAS; Gabbert, J. H., Maj; O'Dell, W. R., Maj; Pritz, S. J., Maj; Stater, S. V., Maj; Waldrop, R. A., Maj; Haynes, H. H. Jr., Capt; Hebel, R. B., Capt; Hebert, P. R., Capt; Koons, B. S., Capt; Taylor, W. C., Capt.
MAF 101—FIRST YEAR AIR FORCE ROTC. ½ credit. Offered 1.
Two hours Leadership Laboratory. Student will additionally register for C-11 (American Institutions).

MAF 102—FIRST YEAR AIR FORCE ROTC. 1½ credits. Offered 2.
Three hours lecture and two hours Leadership Laboratory. Foundations of Air Power—1. A general survey of air power designed to provide the student with an understanding of the elements and potentials of air power.

MAF 201—SECOND YEAR AIR FORCE ROTC. 1½ credits. Offered 1.
Foundations of Air Power—2. A general survey of the roots and development of aerial warfare emphasizing the principles of war, concepts of employment of forces, and the impact of changing weapon systems. Three hours lecture and two hours Leadership Laboratory.

MAF 202—SECOND YEAR AIR FORCE ROTC. ½ credit. Offered 2.
Two hours Leadership Laboratory. Student will additionally register for C-51 (Humanities).

The statement "Offered 1" means offered first semester; 2, second semester;

MAF 301—THIRD YEAR AIR FORCE ROTC. 2 credits. Offered 1.
Air Force Officer Development. Knowledge and skills required of a junior officer in the Air Force. This includes staff organization and foundations, communicating, instructing, and techniques of problem solving.

MAF 302—THIRD YEAR AIR FORCE ROTC. 2 credits. Offered 2.
The second half of the course MAF 301-302. Air Force Officer Development. Principles of leadership and management as applied to Air Force problems, and an introduction to the military justice system.

MAF 401—FOURTH YEAR AIR FORCE ROTC. 0 credits. Offered 1.
Two hours of Leadership Laboratory each week. Students will additionally register for PCL 209 unless already credited with this course.

MAF 402—FOURTH YEAR AIR FORCE ROTC. 0 credits. Offered 2.
Two hours of Leadership Laboratory each week. Students will additionally register for GPY 342 unless already credited with this course.

Military Science Army ROTC

INSTRUCTIONAL STAFF 1960-61

Farris, Glenn A., Col., PMS; Graham, Thomas A., Jr., Col., Exec.; Buckley, A. E., Lt. Col.; Field, W. E., Lt. Col.; Jennings, J. F., Jr., Maj.; Leist, W. C., Maj.; Browder, J. M., Capt.; Faaborg, C., Capt.; Holko, J. M.; Jr., Capt.; Traupane, P. E., Capt.; Van Winkle, P. C., Capt.

MAR 101—FIRST-YEAR ARMY ROTC. 1 credit
The first half of the course MAR 101-102. Organization of the Army and ROTC; Individual Weapons and Marksmanship; Leadership Lab; US Army and National Security. In order to earn full credit for MAR 101, each student enrolled will additionally register for and successfully complete one of the following courses: C11-21-31-41 or C51.

MAR 102—FIRST-YEAR ARMY ROTC. 1 credit
The second half of the course MAR 101-102. In order to earn full credit for MAR 102 each student enrolled will additionally register and successfully complete one of the following courses: C12-22-32-42 or C52.

MAR 201—SECOND-YEAR ARMY ROTC. 1 credit
The first half of the course MAR 201-202. Map and Aerial Photo; US Army and National Security; Introduction to Operations and Basic Tactics and Leadership Laboratory.

MAR 202—SECOND-YEAR ARMY ROTC. 1 credit
The second half of the course MAR 201-202.

MAR 301—THIRD-YEAR ARMY ROTC. 2 credits
The first half of the course MAR 301-302. Leadership; Leadership Lab; Military Teaching Principles, Tactics and Communications and Branches of the Army. Students will additionally register for and successfully complete an academic subject as approved by the PMS.

MAR 302—THIRD-YEAR ARMY ROTC. 2 credits
The second half of the course MAR 301-302.

MAR 401—FOURTH-YEAR ARMY ROTC. 2 credits
The first half of the course MAR 401-402. Leadership Lab; Operations; Logistics; Administration; Military Justice; Role of US in World Affairs; Service Orientation.

MAR 402—FOURTH-YEAR ARMY ROTC. 2 credits
The second half of the course MAR 401-402. Students will additionally register for and successfully complete an academic subject as approved by the PMS.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

Music

INSTRUCTIONAL STAFF 1960-61

Bachman, H. B., Acting Head; Bodine, W. R.; Boitnott, D. M.; Bolles, R. S.; Bowles, R. W.; Danburg, R. L.; Hale, J. P.; Keister, E. J.; Paul, O. F.; Poole, R.; Sarakatsannis, L. N.; Schmidt, D. T.; Sterrett, D. E.; Teeters, Jr., S. B.; Troupin, E. C.; Webb, G. B; White, C. B. Wirtala, A. E.

Courses offered in the Department of Music are divided into five areas: Theory; History, Literature, and Appreciation; Applied; Music Education; Ensemble.

Enrollment is open to all University students—those preparing for a professional goal in music and those seeking a musical literacy for its cultural worth alone.

Voice and Instrumental Lessons. Students registering for Applied Music courses (voice or instrumental lessons) are required to pay an additional fee. Lessons and practice room schedules will be arranged through the office of the Head of Department.

Assignment to courses in this area is determined by individual examination prior to registration. Advancement is determined by the development and the proficiency of the individual. Students may be assigned the same course number on successive registrations. Those registering for voice or instrumental lessons may receive training through class instruction.

All credit in Applied Music is determined by examination. A minimum of 3 hours weekly practice is required in courses numbering under 100. A minimum of 6 hours weekly practice is required in courses numbering over 100. All Applied Music courses are offered in 1, 2, 3.

Ensemble Credit. A maximum of 6 semester hours credit in Ensemble (MSC 170-181) may be applied toward the Bachelor of Fine Arts degree. Four Ensemble credit hours may be applied toward other Bachelor degrees.

Theory

MSC. 101
MSC. 102
MSC. 201
MSC. 202
MSC. 303
MSC. 305
MSC. 306
MSC. 307
MSC. 403
MSC. 405

History, Literature and Appreciation

MSC. 210
MSC. 211
MSC. 213
MSC. 214
MSC. 311
MSC. 312
MSC. 315
MSC. 411
MSC. 412
MSC. 413

Voice and Instrumental Lessons

MSC. 21
MSC. 25
MSC. 27
MSC. 35
MSC. 43
MSC. 51
MSC. 121
MSC. 123
MSC. 125
MSC. 127
MSC. 129
MSC. 131
MSC. 133
MSC. 135
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MSC. 341
MSC. 343
MSC. 345
MSC. 347
MSC. 349
MSC. 351
MSC. 353
MSC. 355
MSC. 357

Music Education

MSC. 160
MSC. 361
MSC. 362
MSC. 363
MSC. 364
MSC. 365
MSC. 366
MSC. 367
MSC. 368
MSC. 369
MSC. 370
MSC. 390
MSC. 460
MSC. 461
MSC. 462

Ensemble

MSC. 170
MSC. 171
MSC. 172
MSC. 173
MSC. 174
MSC. 175
MSC. 176
MSC. 177
MSC. 178
MSC. 179
MSC. 180
MSC. 181

MSC 21—BEGINNING PIANO. 1 credit

MSC 25—BEGINNING VOICE. 1 credit

MSC 27—BEGINNING STRING. 1 credit

MSC 35—BEGINNING WOODWIND. 1 credit

MSC 43—BEGINNING BRASS. 1 credit

MSC 51—BEGINNING PERCUSSION. 1 credit

MSC 101—THEORY OF MUSIC. 3 credits
Offered 1. Rhythms, intervals, motifs, phrases, melodies, chords, and chord progressions through listening, playing, singing, and writing. The chord study includes all primary and secondary triads through the dominant seventh.

MSC 102—THEORY OF MUSIC. 3 credits
Offered 2. The second half of the course MSC 101-102.

MSC 121—INTERMEDIATE PIANO. 2 credits

MSC 123—INTERMEDIATE ORGAN. 2 credits

MSC 125—INTERMEDIATE VOICE. 2 credits

MSC 127—INTERMEDIATE VIOLIN. 2 credits

MSC 129—INTERMEDIATE VIOLA. 2 credits

MSC 131—INTERMEDIATE CELLO. 2 credits

MSC 133—INTERMEDIATE STRING BASS. 2 credits

MSC 135—INTERMEDIATE FLUTE. 2 credits

MSC 137—INTERMEDIATE CLARINET. 2 credits

MSC 139—INTERMEDIATE OBOE. 2 credits

MSC 141—INTERMEDIATE BASSOON. 2 credits

MSC 143—INTERMEDIATE FRENCH HORN. 2 credits

MSC 145—INTERMEDIATE CORNET. 2 credits

MSC 147—INTERMEDIATE TROMBONE. 2 credits

MSC 149—INTERMEDIATE TUBA. 2 credits

MSC 151—INTERMEDIATE PERCUSSION. 2 credits

MSC 153—INTERMEDIATE SAXOPHONE. 2 credits

MSC 155—INTERMEDIATE HARP. 2 credits

MSC 157—INTERMEDIATE HARPSICHORD. 2 credits

MSC 160—MUSIC SKILLS. 3 credits
Offered 1, 2, 3. Fundamentals of music needed by the classroom teacher for teaching music in the elementary school.

MSC 170—UNIVERSITY ORCHESTRA. 1 credit
Offered 1, 2, 3. Prerequisite: Permission of conductor. Standard orchestra literature.

MSC 171—CHORAL UNION. 1 credit
Offered 1, 2, 3. Prerequisite: Permission of conductor. A mixed chorus. Study and performance of large choral works.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

MSC 172—MEN'S GLEE CLUB. 1 credit
Offered 1, 2. Prerequisite: Permission of conductor. Performance of standard male chorus repertoire.

MSC 173—WOMEN'S GLEE CLUB. 1 credit
Offered 1, 2. Prerequisite: Permission of conductor. Performance of standard repertoire for women's voices.

MSC 174—UNIVERSITY BAND. 1 credit
Offered 1, 2, 3. Prerequisite: Permission of conductor. Performance of standard band literature.

MSC 175—CHORAL ENSEMBLE. 1 credit
Offered 2. Prerequisite: Permission of instructor. For advanced voice students interested in singing choral ensemble literature.

MSC 176—WOODWIND ENSEMBLE. 1 credit
Offered 2. Prerequisite: Permission of instructor. For advanced woodwind players interested in playing woodwind ensemble literature.

MSC 177—STRING ENSEMBLE. 1 credit
Offered 2. Prerequisite: Permission of instructor. For advanced string players interested in playing string ensemble literature.

MSC 178—BRASS ENSEMBLE. 1 credit
Offered 2. Prerequisite: Permission of instructor. For advanced brass instrument players interested in the study of brass ensemble literature.

MSC 179—PIANO ENSEMBLE. 1 credit
Offered 1, 2. Prerequisite: Permission of instructor. For advanced students of piano interested in playing piano ensemble literature.

MSC 180—PERCUSSION ENSEMBLE. 1 credit
Offered 2. Prerequisite: Permission of instructor. For advanced percussion players interested in playing percussion ensemble literature.

MSC 181—UNIVERSITY CHOIR. 1 credit
Offered 1, 2. Prerequisite: Permission of conductor. An advanced choral group providing specialized study and performance opportunities for vocally qualified students.

MSC 201—THEORY OF MUSIC. 3 credits
Offered 1. Prerequisite: MSC 102. A continuation of MSC 101-102. More difficult rhythms, intervals, phrases, melodies, chords, and chord progressions through listening, reading, playing, singing, and writing. The chord study includes secondary sevenths, altered chords and modulation.

MSC 202—THEORY OF MUSIC. 3 credits
Offered 2. The second half of the course MSC 201-202.

MSC 210—MUSIC APPRECIATION. 2 credits
Offered 1, 2, 3. A study through group listening and discussion, to expand the student's understanding of music literature.

MSC 211—ROMANTIC LITERATURE. 2 credits
Offered 1. Prerequisite: Permission of instructor. Standard music literature written by the leading composers of the period including: Beethoven, Schubert, Schumann, Mendelssohn, Berlioz, Brahms, Franck, Wagner, Tschaikowsky, Strauss, Mahler.

MSC. 213—CHURCH MUSIC. 2 credits
Offered 1. Prerequisite: permission of instructor. Liturgical forms: choral music for service use; parish programs in church music.

MSC. 214—CHURCH MUSIC. 2 credits
Offered 2. Prerequisite: permission of instructor. The Christian hymn; organ design and literature; principles of service playing.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

MSC 303—FORM AND ANALYSIS. 2 credits
Offered 1. Prerequisite: MSC 202. Analysis of the form and harmony employed in standard musical compositions.

MSC 305—BAND ARRANGING. 2 credits
Offered 2. Prerequisite: MSC 202 or equivalent. Arranging for band instruments, including a study of range, transposition and tone color.

MSC 306—ORCHESTRATION. 2 credits
Offered 1. Prerequisite: MSC 202 or equivalent. Range, tone color, use, and adaptability of the instruments of the orchestra. Arranging for ensembles of various combinations up to and including the standard symphony orchestra.

MSC 307—VOCAL COMPOSITION. 2 credits
Offered 2. Prerequisite: MSC 202 or equivalent. Formation of accompaniment figures and principles of modulation. Study of the rhetorical principles of poetry and music. Writing in the simpler song forms.

MSC 311—CLASSIC LITERATURE. 2 credits
Offered 2. Prerequisite: Permission of instructor. Standard music literature written by the leading composers of the period, with special emphasis on Haydn and Mozart.

MSC 312—PRE-CLASSIC LITERATURE. 2 credits
Offered 1. Prerequisite: Permission of instructor. Standard music literature written by the leading composers of the period, including: Dufay, Palestrina, Monteverde, Purcell, Bach, Handel.

MSC 315—LATIN-AMERICAN MUSIC. 2 credits
Offered 2. Prerequisite: Permission of instructor. Representative works of the leading composers of Latin-America. Emphasis is placed on appreciation and understanding rather than on formal analysis.

MSC 321—ADVANCED PIANO. 2 credits

MSC 323—ADVANCED ORGAN. 2 credits

MSC 325—ADVANCED VOICE. 2 credits

MSC 327—ADVANCED VIOLIN. 2 credits

MSC 329—ADVANCED VIOLA. 2 credits

MSC 331—ADVANCED CELLO—2 credits

MSC 333—ADVANCED STRING BASS. 2 credits

MSC 335—ADVANCED FLUTE. 2 credits

MSC 337—ADVANCED CLARINET. 2 credits

MSC 339—ADVANCED OBOE. 2 credits

MSC 341—ADVANCED BASSOON. 2 credits

MSC 343—ADVANCED FRENCH HORN. 2 credits

MSC 345—ADVANCED CORNET. 2 credits

MSC 347—ADVANCED TROMBONE. 2 credits

MSC 349—ADVANCED TUBA. 2 credits

MSC 351—ADVANCED PERCUSSION. 2 credits

MSC 353—ADVANCED SAXOPHONE. 2 credits

MSC 355—ADVANCED HARP. 2 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

MSC 357—ADVANCED HARPSICHORD. 2 credits

MSC 361—CHORAL MATERIALS LABORATORY. 3 credits
Offered 1. Prerequisite: MSC 102. The study and performance of the repertoire used in secondary school choral organizations.

MSC 362—ORCHESTRA MATERIALS LABORATORY. 3 credits
Offered 3. Prerequisite: MSC 102. The study and performance of the repertoire used in school orchestras.

MSC 363—PROJECTS AND PROBLEMS IN MUSIC. 3 credits
Offered 1, 3. May be taken for credit without MSC 364. For the advanced student who wishes some help in the problems of teaching music in an individual situation.

MSC 364—PROJECTS AND PROBLEMS IN MUSIC. 3 credits
Offered 2, 3. The second half of the course MSC 363-364. May be taken for credit without MSC 363.

MSC 365—SURVEY OF ORCHESTRAL AND BAND INSTRUMENTS. 3 credits
Offered 2. Prerequisite: MSC 102. Fundamental principles survey of orchestral and band instruments.

MSC 366—MUSIC IN THE FIELD OF RECREATION. 3 credits
Offered 1. The various uses of music in the field of recreation.

MSC 367—MUSIC EDUCATION IN THE ELEMENTARY SCHOOL. 3 credits
Offered 1, 3. Prerequisite: MSC 102. Fundamental principles and procedures of music education in the elementary school.

MSC 368—MUSIC EDUCATION IN THE JUNIOR HIGH SCHOOL. 3 credits
Offered 2. Prerequisite: MSC 102. Fundamental principles and procedures of music education in the junior high school.

MSC 369—MUSIC EDUCATION IN THE SENIOR HIGH SCHOOL. 3 credits
Offered 1. Prerequisite: MSC 102. Fundamental principles and procedures of music education in the senior high school.

MSC 370—MUSIC SEMINAR. No credit.
Offered 1, 2. Prerequisites: A major in music. Presentation, study, discussion, application and critical evaluation of selected topics of current interest and significance in music. Required each semester of all students majoring in music.

MSC 390—MUSIC FOR THE ELEMENTARY CHILD. 3 credits
Offered 1, 2, 3. Prerequisite: MSC 160 or equivalent; EDF 245. MSC 390 helps meet state certification requirements for elementary classroom teachers. A study of the function of elementary school music in aiding the development growth of children.

MSC 403—COUNTERPOINT
2 hours. 2 credits. Prerequisite: MSC 202. Offered 1. Free and strict counterpoint through listening, reading, playing, singing, and writing.

MSC 405—CONDUCTING
3 hours. 3 credits. Prerequisite: Eight credits in one area of applied music or permission of the instructor. Offered 2. Basic techniques of choral and instrumental conducting.

MSC 411—CONTEMPORARY LITERATURE. 2 credits
Offered 2. Prerequisite: Permission of instructor. Standard music literature written by the leading composers of the period, including: Debussy, Ravel, Stravinsky, Schoenberg, Hindemith, Bartok.

MSC 412—SURVEY OF MUSIC HISTORY. 2 credits
Offered 1. Prerequisite: Permission of instructor. A detailed study of the history of music with emphasis on its relationship to the history of man.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

MSC 413—SURVEY OF MUSIC HISTORY. 2 credits
Offered 2. The second half of course MSC 412-413.

MSC 460—BAND MATERIALS LABORATORY. 3 credits
Offered 2, 3. Prerequisite: MSC 102. The study and performance of the repertoire used in school bands.

MSC 461—SCHOOL MUSIC ADMINISTRATION. 3 credits
Offered 1. Prerequisite: Permission of instructor. Fundamental principles and problems of organization and administration of city, county and state school music systems.

MSC 462—ELEMENTARY SCHOOL MATERIALS LABORATORY. 3 credits
Offered 1, 3. Prerequisite: MSC 390 or permission of instructor. Examination, evaluation and methods of using the materials in the Elementary Music program.

Nuclear Engineering

INSTRUCTIONAL STAFF 1960-61

Uhrig, R. E., Acting Head; Boynton, A. R.; Dalton, G. R.; Grant, L. G.; Hartley, R. H.; Kiefer, F.; Lafferty, D. L.; Parkinson, T. F.; Schoessow, G. J.; Stetson, R. E.; Wethington, Jr., J. A.

NR 400—INTRODUCTION TO NUCLEAR ENGINEERING. 3 credits
Offered 1, 2. Prerequisite PS 320 or Consent of instructor. A study of nuclear fission, reactor principles, types, designs, and materials of construction. Radiation hazards and shielding; waste disposal.

NR 431—INTRODUCTION TO HEAT TRANSFER AND FLUID FLOW. 3 credits
Offered 1. Prerequisites: PS 205, MS 354. Not available for Mechanical or Chemical Engineering majors. A study of the physical properties important in energy transfer calculations, dimensional analysis, and momentum and heat transfer by conduction, convection, and radiation mechanisms.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

NR 535—RADIOLOGICAL SAFETY ENGINEERING. 2 credits
Offered 1 and 2. Interaction of radiation with matter; detection, measurement, and shielding of radiation; philosophy, operations and problems in radiological safety.

GRADUATE COURSES

NR 600—NUCLEAR ENGINEERING LABORATORY. 3 credits

NR 601—NUCLEAR ENGINEERING LABORATORY. 3 credits

NR 603—ADVANCED RADIATION PROCESSES. Identical with CY 603. 3 credits

NR 610—REACTOR ANALYSIS I. 3 credits

NR 611—REACTOR ANALYSIS II. 3 credits

NR 620—DESIGN OF NUCLEAR PLANTS. 3 credits

NR 622—SPECIAL TOPICS IN NUCLEAR ENGINEERING. 1 to 6 credits

NR 631—REACTOR FUEL CYCLES. 3 credits

NR 632—NUCLEAR PROCESSING AND SEPARATION I. 3 credits

NR 633—NUCLEAR PROCESSING AND SEPARATIONS II. 3 credits

NR 636—NUCLEAR SEMINAR. 1 credit

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

NR 640—SPECIAL NUCLEAR MATERIALS. 3 credits

NR 650—SHIELDING AND HEAT GENERATION. 3 credits

NR 651—REACTOR TECHNOLOGY. 3 credits

NR 685—DYNAMIC ANALYSIS OF NUCLEAR REACTOR SYSTEMS. 4 credits

NR 690—ADVANCED REACTOR ANALYSIS. 3 credits

NR 691—NUMERICAL METHODS IN REACTOR CALCULATIONS. 3 credits

NR 692—NEUTRON TRANSPORT THEORY|. 3 credits

NR 695—STOCHASTIC PROCESSES IN NUCLEAR SYSTEM. 4 credits

NR 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

Nuclear Science

The program in Nuclear Science is a coordinated program in research and teaching which includes the Department of Nuclear Engineering and sections from the Departments of Botany, from Agriculture, Chemistry, Physics and Mathematics from Arts and Sciences, and Radiology from Medicine.

Established as the result of a special act of the 1957 Legislature, and scheduled to be housed in a Nuclear Sciences Center, the program is designed to permit the maximum use of outstanding and costly facilities in multidisciplinary research and teaching.

Among the special facilities available are the 10 KW training reactor which permits special research in fundamental nuclear phenomena, as well as studies of isotope production, shielding, and the influence of radiation on metals and other materials; the liquid metal test loop assembly; the sub-critical reatcor; the one Mev Van de Graaff accelerator; nuclear magnetic resonance equipment, and other specialized equipment for use and study in the nuclear field.

The program in nuclear science is headed by a director who serves to coordinate and promote research and teaching in the nuclear field throughout the University. The director is also responsible for the safety program which is carried out by a Radiation Control Committee made up from scientists from the departments using sources of radiation, and a Radiation Control officer who is responsible for the operation details of the safety program.

The nuclear program as now constituted presents an unusual opportunity for qualified staff and students to pursue vital investigations in one of the very rapidly expanding areas of science and technology.

Nursing

INSTRUCTIONAL STAFF 1960-61

Smith, D. M., Dean; Bear, E. M.; Bradshaw, C. J.; Buchanan, B. B.; Burns, M. P.; Canetto, V.; Cheng, N. Y.; Culpan, F. M.; Gaspard, N. J.; Guertin, W. H.; Hayes, C. V.; Jones, E. M.; Jourard, S. M.; Kincaid, L.; Knowles, L. N.; Kordana, J. H.; Luther, D. C.; Martinez, J. J.; McLean, M. C.; Mercadante, L. T.; Pafford, V. M.; Remillet, J. G.; Taylor, C. D.; Wilson, J. M.

NSG 101—INTRODUCTION TO THE NURSING PROFESSION. 3 credits
Offered 1, 2. Open to University College students; a required course for nursing students. An introductory course in nursing to give students a broad understanding and appreciation of the growth and development of the nursing profession.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

NSG 111—INTRODUCTION TO NURSING FUNCTIONS. 3 credits
Offered 1, 2, 3. Open to University College students. A required course for nursing students. An exploration of the role of the nurse in health promotion and care of the sick. Introduction to nurse-patient and nurse-co-worker relationships and to professional communication techniques.

NSG 220—NURSING SKILLS LABORATORY. 2 credits
Offered 1, 3. Prerequisite or corequisite: NSG 111. A course designed to provide opportunities for nursing students to work with selected patients in order to develop the basic manual and interpersonal skills of nursing. Includes conferences and discussion periods to help students develop principles of nursing care and to evaluate their own skills in meeting the needs of patients.

NSG 221—NURSING SKILLS LABORATORY. 2 credits
Offered 2, 3. The second half of the course. NSG 220-221.

NSG 310—MEDICAL AND SURGICAL NURSING. 3 credits
Offered 1, 2. Prerequisites: NSG 111, NSG 220, NSG 221, FT 250. This course is concerned with the knowledge and understanding essential to the nursing care of patients with general medical and surgical conditions.

NSG 311—MEDICAL AND SURGICAL NURSING LABORATORY. 5 credits
Offered 1, 2. Prerequisite or corequisite: NSG 310. This laboratory includes clinics and conferences as well as practice in the care of selected patients in the hospital and outpatient clinics.

NSG 321—PATIENT CENTERED NURSING. 3 credits
Offered only by Extension. 3 hours. Open to licensed professional nurses only. Designed to broaden the graduate nurse's concept of the scope of nursing care. Emphasis on nursing skills and techniques, both manual and interpersonal, as means of providing needed care rather than as ends in themselves.

NSG 330—MATERNAL AND CHILD HEALTH NURSING. 3 credits
Offered 1, 2. Prerequisites: NSG 111, NSG 220, NSG 221. Prerequisite or corequisite: EDF 245. A course designed to help students acquire those attitudes, skills and understandings necessary to carry out professional nursing responsibilities in the area of maternal and child health. Includes a study of reproduction, pregnancy, birth, infancy, and childhood. Also includes discussion of community agencies contributing to maternal and child health nursing.

NSG 331—MATERNAL AND CHILD HEALTH NURSING LABORATORY. 5 credits
Offered 1, 2. Prerequisite or corequisite: NSG 330. This laboratory provides opportunities for conferences, observations and nursing practice in pre and postpartum clinics, labor and delivery rooms, and in the care of mothers and infants including prematures.

NSG 334—COMMUNICABLE DISEASE CONTROL. 2 credits
Offered 1, 2. Prerequisite: BCY 300. Provides students with an understanding of the common communicable diseases and current methods of control. Emphasis on prevention.

NSG 341—PEDIATRIC NURSING LABORATORY. 5 credits
Offered 1, 2, 3. Prerequisites: EDF 245, NSG 220, NSG 221. Provides opportunities for clinics, conferences and practice in the nursing care of children in the hospital and outpatient clinic.

NSG 440—PUBLIC HEALTH NURSING. 3 credits
Offered 1, 2. Prerequisites: NSG 310, NSG 311, NSG 330, NSG 331, NSG 334 and NSG 341. Corequisites: NSG 441 and NSG 443. Study of the principles of public health nursing and of the role of the nurse in all aspects of public health nursing services.

NSG 441—PUBLIC HEALTH NURSING LABORATORY. 5 credits
Offered 1, 2. Corequisites: NSG 440, NSG 443. Observation and practice in public health nursing in an agency providing public health nursing services.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

NSG 443—PUBLIC HEALTH ADMINISTRATION. 3 credits
Offered 1, 2. Corequisites: NSG 440 and NSG 441. A study of the principles of organization and administration of public health agencies at all levels.

NSG 445—NURSING ASPECTS OF GERONTOLOGY. 3 credits
Offered 1, 2. Prerequisite: NSG 310. A study of the understandings and skills required for effective nursing service to the aged.

NSG 450—PSYCHIATRIC NURSING. 3 credits
Offered 1, 2. Prerequisites: NSG 310 and NSG 311. This course is concerned with the knowledge, understandings, skills and attitudes essential to the nursing care of patients with psychiatric disorders. Designed to broaden and deepen understandings already gained in relation to mental health.

NSG 451—PSYCHIATRIC NURSING LABORATORY. 5 credits
Offered 1, 2. Prerequisites: NSG 310 and NSG 311. Prerequisite or corequisite:

NSG 450. Provides opportunities for conferences, clinics and practice in the care of psychiatric patients.

NSG 460—PRINCIPLES OF TEAM NURSING. 3 credits
Offered only by Extension. 3 hours. Open to licensed professional nurses only. Designed to prepare nurses to function as effective members and leaders of the nursing team. Includes discussion of utilization of non-professional personnel on the team.

NSG 461—TEAM NURSING LABORATORY. 5 credits
Offered 1, 2. Prerequisites: NSG 311, NSG 331, NSG 341. An internship experience providing opportunity for students to function as a member of the nursing team in the various clinical areas.

NSG 481—NURSING IN MEDICAL AND SURGICAL SPECIALTIES. 3 credits
Offered 1, 2. Prerequisite: NSG 311 or equivalent. Corequisite: NSG 461. A study of those conditions and diseases commonly called medical and surgical specialties. Includes dermatology, orthopedics, urology, and neurosurgery. Practice in the care of these patients is provided for in NSG 461.

Occupational Therapy

INSTRUCTIONAL STAFF 1960-61

Jantzen, A. C., Head; Jonas, G. J.; Thralls, M. E.

See also course offerings under Health Related Services (HRS).

OCT 311—INTRODUCTION TO OCCUPATIONAL THERAPY. 2 credits
Offered 1. Prerequisite or corequisite: HRS 201. Current occupational therapy objectives and practices as they relate to recent advances and trends in medicine.

OCT 322—TREATMENT PROCEDURES I. 3 credits
Offered 2. Corequisite: HRS 322. Occupational therapy for psychiatric patients and the psychological adjuncts of physical illnesses. Psychological analysis of activities used in occupational therapy. Preclinical observation.

OCT 332—MUSCULOSKELETAL ANATOMY. 4 credits
Offered 2. Prerequisite: HRS 331. Lectures and intensive laboratory study of the human musculoskeletal system, with emphasis on the upper extremities. Anatomy of the brain and spinal cord.

OCT. 361—THERAPEUTIC SKILLS. 3 credits
Offered 1. Prerequisite or corequisite: HRS 201. Principles of hand and machine needlecrafts and of hand printing as applied to the occupational therapy program.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

OCT 362—THERAPEUTIC SKILLS. 3 credits
Offered 2. Prerequisite: OCT 361. Principles of weaving as applied to the occupational therapy program.

OCT 411—ADVANCED THEORY. 2 credits
Offered 1. Prerequisite: OCT 311. Organization and administration of occupational therapy departments. Relationships of occupational therapy to other services and agencies for patient care.

OCT 441—KINESIOLOGY. 2 credits
Offered 1. Prerequisite: OCT 332. Individual and group actions of muscles of upper extremity, lower extremity and trunk as related to selected occupational therapy activities.

OCT 442—TREATMENT PROCEDURES II. 4 credits
Offered 2. Prerequisites: OCT 441, OCT 451. Occupational therapy as applied to surgical, orthopaedic and neurological disabilities. Adaptation of equipment, work simplification, job analysis, construction and use of self-help devices. Clinical observation and practice.

OCT 451—OCCUPATIONAL THERAPY EVALUATION PROCEDURES. 3 credits
Offered 1. Prerequisite or corequisite: OCT 322, HRS 433. Assessment of the physical status of various disability groups. Methods of evaluation and of reporting results.

OCT 452—OCCUPATIONAL THERAPY EVALUATION PROCEDURES. 2 credits
Offered 2. Prerequisite: OCT 451. Assessment of personality status, of social behavior and of developmental levels of various diagnostic groups. Test construction and record keeping with implications for research in occupational therapy.

Ornamental Horticulture

INSTRUCTIONAL STAFF 1960-61

McElwee, E. W., Head; Dickey, R. D.; Horn, G. C.; Joiner, J. N.; Watkins, J. V.

OH 203—INTRODUCTION TO ORNAMENTAL HORTICULTURE. 3 credits
Offered 1. Economic importance, principles and practices used in the production and use of floricultural, nursery, and turf crops. Textbook: Fundamentals of Horticulture, Musser, Edmonds, Andrews.

OH 217—PLANT PROPAGATION. 3 credits
Offered 1. Corequisite: BTY 180. Principles, practices in the propagation of ornamental plants, by seedage, cuttage, budding, grafting, division, and other methods. Textbook: Mahlstede and Haber, *Plant Propagation.*

OH 319*—MAINTENANCE OF ORNAMENTAL TREES AND SHRUBS. 3 credits
Offered 2. Prerequisites: BTY 180, SLS 310. A study of factors influencing growth, transplanting, fertilizing, pruning; cabling and cavity treatment. Textbook: Haller, *Tree Care.*

OH 329—LANDSCAPE GARDENING. 3 credits
Offered 1. Prerequisite: BTY 180 or permission of instructor. The principles and practices of arrangement, planting and maintenance of small home and school grounds. Textbook: Korbobo: *The Complete Home Landscaping & Garden Guide.*

OH 331—WOODY PLANT MATERIALS. 3 credits
Offered 1. Prerequisites: BTY 180, OH 203 or permission of the instructor. The identification, growth characteristics, requirements, and use of trees, palms, shrubs, vines, annuals and herbaceous plants in landscape plantings.

OH 332**—WOODY PLANT MATERIALS. 3 credits
Offered 2. Prerequisite: OH 331. A continuation of OH 331.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

OH 362—TURF MANAGEMENT. 3 credits
Offered 1, 2. Prerequisites: BTY 180-280. The size and scope of the turf industry, characteristics and adaptations of the grasses and turf plants, basic concepts of planting, establishing, maintaining turf. The care and operation of turf machinery and equipment will be covered. Textbook: Musser, *Turf and Turf Management.*

OH 402—ADVANCED PLANT PROPAGATION. 3 credits
Offered 2. Prerequisite: OH 217, prerequisite or corequisite BTY 211. A critical study of current literature and research and laboratory research on the physiological and economic factors affecting the commercial propagation of ornamental plants.

OH 403—ORNAMENTAL HORTICULTURE SEMINAR. 1 credit
Offered 1, 2. Selected reading, reports and discussion of current literature on ornamental horticultural problems and developments.

OH 420*—NURSERY OPERATION. 3 credits
Offered 2. Prerequisite: OH 217. A study of the principles and practices of wholesale and retail nursery operation, including related regulatory laws, preparation of layout plans and compilation of nursery lists. Two field trips to nurseries and sales yards are required.

OH 430**—PLANTING DESIGN. 3 credits
Offered 2. Prerequisite: OH 331, corequisite: OH 332. Preparation of planting plans, planting lists, and cost estimates for landscaping small home grounds, school and municipal buildings, and public areas. Textbook: Robinson, *Planting Design.*

OH 434**—FLOWER SHOP MANAGEMENT. 3 credits
Offered 2. A study of the principles and practices involved in the management and operation of retail flower shops and basic principles of floral designing. Two field trips are required. Textbook: Liesveld, *The Retail Flower Shop.*

OH 441*—COMMERCIAL FLORICULTURE. 3 credits
Offered 1. Prerequisites: BTY 211, OH 203, prerequisite or corequisite: OH 331 and SLS 310. The commercial production of greenhouse and field grown cut flowers including culture, harvesting, grading, and marketing. A two-day field trip to production areas is required. Textbook: Post, *Florist Crop Production and Marketing.*

OH 442*—COMMERCIAL FLORICULTURE. 3 credits
Offered 2. Prerequisite: OH 441. A continuation of OH 441 and covering bulb crops, foliage plants, and pot plants commercially important in Florida. A two-day field trip is required.

OH 462—ADVANCED TURF MANAGEMENT. 3 credits
Offered 2. Prerequisites: BTY 211, SLS 310 or permission of instructor. Production, establishment and management of ornamental turf. Problems of turf maintenance services and the marketing of turf supplies and products. Textbook: Musser, *Turf and Turf Management.*

OH 499—SPECIAL PROBLEMS IN ORNAMENTAL HORTICULTURE. 1-3 credits
Offered 1, 2. Open to seniors, or consent of instructor. Individual research work in various phases of horticulture.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

OH 511**—ORCHID CULTURE. 3 credits
Offered 2. Prerequisites: OH 441, 442 or permission of instructor. The principles and practices involved in the production of orchid plants and flowers including nomenclature, breeding, seed culture, harvesting and handling.

GRADUATE COURSES

OH 603—GRADUATE SEMINAR. 1 credit

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*Offered 1961-62 and in odd years.

**Offered 1960-61 and in even years.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

OH 611—ADVANCED GREENHOUSE MANAGEMENT. 3 credits

OH 620—ADVANCED NURSERY MANAGEMENT. 3 credits

OH 630—RESEARCH METHODS IN ORNAMENTAL HORTICULTURE. 3 credits

OH 662—ADVANCED TURF TECHNOLOGY. 3 credits

OH 670—NON-THESIS RESEARCH IN ORNAMENTAL HORTICULTURE
1 to 6 credits

OH 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

Pharmaceutical Chemistry

INSTRUCTIONAL STAFF 1960-61

Gramling, L. G., Head; Foote, P. A.; Kier, L. B.; Lauter, W. M.

PCY 355—ORGANIC AND ANALYTICAL PHARMACEUTICAL CHEMISTRY.
5 credits
Offered 1, 2. Prerequisites: CY 331, 362-363. The first half of the course PCY 355-356. The chemistry and pharmacy of natural and synthetic drugs, including qualitative drug analysis and the more important quantitative procedures.

PCY 356—ORGANIC AND ANALYTICAL PHARMACEUTICAL CHEMISTRY.
5 credits
Offered 1, 2. The second half of the course PCY 355-356.

GRADUATE COURSES

PCY 611—SYNTHETIC MEDICINAL PRODUCTS. 3 credits

PCY 612—SYNTHETIC MEDICINAL PRODUCTS. 3 credits

PCY 613—SYNTHETIC MEDICINAL PRODUCTS. 2 credits

PCY 614—SYNTHETIC MEDICINAL PRODUCTS. 2 credits

PCY 621—NATURAL MEDICINAL PRODUCTS. 3 credits

PCY 622—NATURAL MEDICINAL PRODUCTS. 3 credits

PCY 623—NATURAL MEDICINAL PRODUCTS. 2 credits

PCY 624—NATURAL MEDICINAL PRODUCTS. 2 credits

PCY 631—ANALYTICAL AND CONTROL METHODS. 5 credits

PCY 632—ANALYTICAL AND CONTROL METHODS. 5 credits

PCY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

PCY 799—DOCTORAL DISSERTATION. 1 to 12 credits

Pharmacognosy

INSTRUCTIONAL STAFF 1960-61

Voss, Elbert, Head; Johnson, C. H.

PGY 221—PRACTICAL PHARMACOGNOSY. 3 credits
Offered 1, 2. Sources of crude drugs and systematic classifications of the vegetable and animal drugs of the United States Pharmacopeia and National Formulary.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PGY 222—PRACTICAL PHARMACOGNOSY. 3 credits
Offered 2, 3. The second half of the course PGY 221-222.

GRADUATE COURSES

PGY 601—ADVANCED HISTOLOGY AND MICROSCOPY OF VEGETABLE DRUGS. 4 credits

PGY 603—MICROANALYTICAL PHARMACOGNOSY. 2 credits

PGY 604—CULTIVATION AND PROCESSING OF MEDICINAL PLANTS. 2 credits

PGY 625—DRUG PLANT ANALYSIS. 2 to 4 credits

PGY 626—DRUG PLANT ANALYSIS. 2 to 4 credits

PGY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

PGY 799—DOCTORAL DISSERTATION. 1 to 12 credits

Pharmacology

INSTRUCTIONAL STAFF 1960-61

Voss, Elbert, Head; Fox, L. E., Malewitz, T. D.

PLY 301—APPLIED HUMAN ANATOMY FOR PHARMACISTS. 4 credits
Offered 1, 2. Prerequisite: C-6 Gross anatomy of the important organ systems and microscopic study of human and mammalian tissues and organs; medical terminology.

PLY 302—APPLIED HUMAN PHYSIOLOGY FOR PHARMACISTS. 4 credits
Offered 2, 3. Prerequisites: PLY 301; PS 201-202, 207-208. Lectures and laboratory work covering various phases of human physiology.

PLY 405—INTRODUCTORY PHARMACOLOGY. 3 credits
Offered 1, 3. Prerequisites: PLY 301-302; BCY 305-307. The first half of the course PLY 405-406. The actions of drugs are studied. The pharmacological action, dosage forms, preparation, methods of administration, toxicity, and precautions in use are emphasized.

PLY 406—PHARMACOLOGY. 5 credits
Offered 1, 2. The second half of the course PLY 405-406.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

PLY 552—PRINCIPLES OF BIOLOGICALS. 3 credits
Offered 2. Physiology and pharmacology of the endocrine glands.

GRADUATE COURSES

PLY 607—ADVANCED PHARMACOLOGY. 3 credits

PLY 608—ADVANCED PHARMACOLOGY. 3 credits

PLY 609—ADVANCED PHARMACOLOGY LABORATORY. 1 credit

PLY 610—ADVANCED PHARMACOLOGY LABORATORY. 1 credit

PLY 617—SPECIAL HOSPITAL PHARMACOLOGY. 3 credits

PLY 630—SPECIAL PROBLEMS. 5 credits

PLY 650—ADVANCED PHARMACOLOGICAL TESTING. 4 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PLY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

PLY 799—DOCTORAL DISSERTATION. 1 to 12 credits

Pharmacy

INSTRUCTIONAL STAFF 1960-61

Husa, W. J., Head; Becker, C. H.; Foote, P. A.; Gramling, L. G.; Hampton, R. J.; Kier, L. B.; McConnell, W. E.; Notari, R. E.

PHY 106—PHARMACEUTICAL CALCULATIONS. 2 credits
Offered 1. Prerequisite: C-42. Calculations used in pharmaceutical work with emphasis on practical problems.

PHY 223—GALENICAL PHARMACY. 3 credits
Offered 1. Prerequisites or corequisites: CY 217, PHY 106, PGY 221. Galenical preparations such as syrups, spirits, tinctures, extracts and emulsions. The preparation of these materials extemporaneously on a small scale.

PHY 224—GALENICAL PHARMACY. 3 credits
Offered 2. Corequisite or prerequisite: PGY 222. The second half of the course PHY 223-224.

PHY 311—INORGANIC PHARMACY. 4 credits
Offered 1, 2. Prerequisites: CY 217, PHY 223-224. The inorganic compounds used in medicine; their Latin titles, origin, and physical, chemical and physiological properties; their preparation and use in compounding.

PHY 315—HISTORY AND ETHICS OF PHARMACY. 2 credits
Offered 1. Prerequisites: A minimum of 12 credits in courses in College of Pharmacy. History and ethics of pharmacy from ancient civilizations to the present time.

PHY 374—COMMERCIAL PHARMACY. 5 credits
Offered 1, 2. Prerequisite ATG 211. Prerequisite or corequisite: PHY 311. Merchandising, management, and legal problems of the retail pharmacist.

PHY 441—MANUFACTURING PHARMACY. 2 credits
Offered 2. Prerequisites: PHY 311 and PCY 355 or 356. A limited number of students, with approval of instructor, will be permitted to take this course. Manufacture of pharmaceutical preparations such as syrups, elixirs, tablets, and emulsions on pilot plant and hospital scale.

PHY 455—PHARMACEUTICAL SPECIALTIES. 3 credits
Offered 1, 2. Prerequisite: PCY 355 or PCY 356. The first half of the course PHY 455-456. A study of the more important non-official specialities found in modern prescription practice and over-the-counter sales. More than twelve hundred specialities are available for study.

PHY 456—PHARMACEUTICAL SPECIALTIES. 3 credits
Offered 2, 3. The second half of the course PHY 455-456.

PHY 461—PRESCRIPTIONS AND DISPENSING. 4 credits
Offered 1, 2. Prerequisites: PHY 311, PCY 355. Corequisite: PCY 356. Methods of compounding and dispensing various types of prescriptions.

PHY 462—PRESCRIPTIONS AND DISPENSING. 4 credits
Offered 2, 3. The second half of the course PHY 461-462.

PHY 481—PHARMACY LAWS. 2 credits
Offered 1, 2. Prerequisite: PHY 311. Various Federal, state, and local statutes, regulations, administrative rulings and ordinances regulating the practice of pharmacy.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

PHY 532—HOSPITAL PHARMACY. 2 credits
Offered 2. Prerequisite: PHY 311. An introduction to the practice of pharmacy in hospitals. Supervised experience in the various operations at the Teaching Hospital Pharmacy Department is provided by the laboratory portion of the course.

PHY 553—PARENTERALS. 3 credits
Offered 1. Prerequisites: PHY 311, PLY 302, BCY 305. Fundamental techniques of preparation, administration, and testing of materials designed for parenteral injection.

GRADUATE COURSES

PHY 601—HOSPITAL PHARMACY ADMINISTRATION. 2 credits

PHY 602—SELECTED TOPICS IN PHARMACY. 2 credits

PHY 603—ADVANCED PHARMACY. 2 credits

PHY 604—ADVANCED GALENICAL PHARMACY. 2 credits

PHY 611—HOSPITAL PHARMACY SEMINAR. 1 credit

PHY 643—PHARMACEUTICAL EQUIPMENT AND MACHINERY. 4 credits

PHY 645—PHARMACEUTICAL FORMULATIONS. 4 credits

PHY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

PHY 799—DOCTORAL DISSERTATION. 1 to 12 credits

Philosophy

INSTRUCTIONAL STAFF 1960-61

Bartlett, G. R., Head; Anderson, W. E.; Blackstone, W. T.; Crittenden, C. C.; Lewis, A. L.; McCleary, R. C.; Morris, C. W.

Majors: Students intending to major in philosophy in the College of Arts and Sciences should, at the earliest possible opportunity, consult the departmental adviser.

Prerequisites: It is desirable that students have credit for PPY 220 before taking courses numbered 300 or above. PPY 201 or PPY 205 may also serve as an introduction into more advanced courses.

PPY 201—PROBLEMS OF PHILOSOPHY. 3 credits
Offered 1, 2. A consideration of some of the major problems of philosophy—ethics, philosophy of science, theory of knowledge, philosophy of art, philosophy of religion, and metaphysics. Selections from the writings of important philosophers, ancient and modern, with emphasis upon the modern, will be read.

PPY 205—TYPES OF PHILOSOPHY. 3 credits
Offered 1, 2. An introduction to philosophy through the study of certain basic types, such as idealism, materialism, etc. Selected readings from major philosophers illustrative of the positions considered.

PPY 220—FOUNDATIONS OF PHILOSOPHY. 3 credits
Offered 1. The fundamental techniques of analysis and evaluation used in the further study of philosophy and other subjects, and application of these techniques to philosophical material.

PPY 231—CURRENT PHILOSOPHIC ISSUES. 2 credits
Offered 1, 2. The significance of selected philosophic issues related to the fields of politics, theology, literature and science.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PPY 236—PHILOSOPHY OF RELIGION. 3 credits
Offered 1, 2. An examination of the principal views of major philosophers on questions pertaining to God, freedom and determinism, good and evil, science and religion, church and state, etc.

PPY. 311—HISTORY OF PHILOSOPHY—ANCIENT AND MEDIEVAL PERIODS. 3 credits
Offered 1. History of philosophy from Greece to the Renaissance. Selections from the writings of the principal figures of this period will be read.

PPY 312—HISTORY OF PHILOSOPHY—THE RENAISSANCE THROUGH THE EIGHTEENTH CENTURY. 3 credits
Offered 2. History of philosophy from the Renaissance to the end of the 18th century. Selections from such writers as Descartes, Spinoza, Locke, Hume, and Kant will be read.

PPY 313—HISTORY OF PHILOSOPHY—NINETEENTH AND TWENTIETH CENTURIES. 3 credits
Offered 1, 2. History of philosophy from the beginning of the 19th Century to the present time. Selections from such writers as Hegel, Mill, Bergson, and Russell will be read.

PPY 320—DEDUCTIVE LOGIC. 3 credits
Offered 1, 2. An introduction to deductive logic. Some discussion of Aristotelian logic, but the emphasis is on the more general and more powerful symbolic techniques developed in the contemporary period.

PPY 321—ETHICS. 3 credits
Offered 1, 2. An inquiry into basic concepts and principles of morals. Readings will include selections from the works of important ethicists.

PPY 322—THEORY OF KNOWLEDGE. 3 credits
Offered 1. An inquiry into the nature of human knowledge, its grounds and structure, and the criteria of acceptable beliefs. Readings will include selections from the important historical and modern philosophers with emphasis on contemporary empiricism.

PPY 323—PHILOSOPHY OF SCIENCE. 3 credits
Offered 2. A consideration of the nature of the sciences, the relations among them, the nature of scientific methods and philosophic issues involved in the basic concepts of the sciences.

PPY 324—AESTHETICS. 3 credits
Offered 2. A systematic investigation of the problems of aesthetic value. Consideration will be given to the work of prominent philosophic aestheticians.

PPY 430—INDIVIDUAL WORK. 3 credits
Offered 1, 2. Prerequisites: 12 hours of philosophy, and permission of the department head. Provision will be made for advanced undergraduate students who desire to supplement the regular courses by individual reading or investigation under guidance. Students will be helped to plan a definite program, and will meet a member or members of the departmental staff in frequent conferences. With change of content, PPY 430 may be elected for full credit in subsequent semesters.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

The courses numbered in the 500's are designed primarily for advanced undergraduates and beginning graduate students. They may be taken for graduate major credit when approved by the departmental adviser or by the student's graduate supervisory committee. Students taking these courses for graduate major credit will be required to do additional readings and reports. Programs for all graduate degrees must include approved course work at the 600 level or above.

PPY 511—PHILOSOPHY IN AMERICA. 3 credits
Prerequisite: At least one course in philosophy. Available for graduate major credit. Principal movements in philosophic thought in this country; Puritanism, the Enlightenment, Transcendentalism, the academic tradition, the influence of science and evolution, idealism, pragmatism, realism, naturalism, recent trends.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PPY 512—THE PRAGMATIC MOVEMENT. 3 credits
Prerequisite: At least two courses in philosophy. Available for graduate major credit. A consideration of the extent to which the work of Pierce, James, Dewey, Mead, and Lewis forms an organized philosophic position.

PPY 520—SEMANTICS. 3 credits
Offered 2. Prerequisite: PPY 220. Available for graduate major credit. The recognition of major positions in the field and the selection and application of a theory of signs to chosen material from the humanities, and the physical, biological, and social sciences.

PPY 525—SOCIAL AND POLITICAL PHILOSOPHY. 3 credits
Prerequisite: PPY 321. Available for graduate major credit. Analytic inquiry into outstanding social and political philosophies of the past and present.

PPY 526—METAPHYSICS. 3 credits
Prerequisite: PPY 220 or PPY 322. Available for graduate major credit. A consideration of the principal problems of metaphysics—the nature of reality, the problem of universals, space, time, causality, mechanism and organicism, etc.

GRADUATE COURSES

PPY 601—SEMINAR IN HISTORY OF PHILOSOPHY. 3 credits

PPY 602—SEMINAR IN PROBLEMS OF VALUE. 3 credits

PPY 603—SEMINAR IN CONTEMPORARY PHILOSOPHY. 3 credits

PPY 604—SEMINAR IN PROBLEMS OF KNOWLEDGE. 3 credits

PPY 605—SEMINAR IN GENERAL THEORY OF SIGNS. 3 credits

PPY 606—SEMINAR IN AESTHETICS. 3 credits

PPY 610—MATHEMATICAL LOGIC. 3 credits

PPY 630—INDIVIDUAL WORK. 3 credits

PPY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

PPY 700—PHILOSOPHY OF EDUCATION. 1 credit

Physical Education, Health and Athletics

INSTRUCTIONAL STAFF 1960-61

Sandefur, W. T., Head; Amor, M. Jr.; Beard, P. M.; Boyd, C. A.; Cherry, H. S.; Crickenberger, M. E.; Edmondson, C.; Harlan, W. E.; Hicks, D. A.; Leavitt, N. M.; Lee, P. A.; Leilich, R. E.; Lie, J. G.; McCachren, J. R.; Millar, J. C.; Mooney, E. G.; Moore, A. C.; Nagle, F. J.; Nixon, M. S.; Nuetzel, W. A.; Pofahl, M. E.; Potter, W. M.; Pye, R. L.; Rehling, C. H.; Salt, E. B.; Scott, T. M.; Solley, W. H.; Stevens, B. K.; Waglow, I. F.

These courses are designed primarily for students planning to teach in the areas of Physical Education, Health Education, or Recreation. Students planning to teach in other areas may register for such courses as are necessary to meet general preparation or elementary school certification requirements. Students not planning to teach may register for any of the courses in this section only upon special permission of the Head of the Department of the Professional Curriculum.

Professional courses in the areas of Physical Education Athletic Coaching, Health Education and Recreation are designed to prepare students (1) to become instructors of physical education in schools and colleges (2) to direct and coach athletic teams in the major and minor sports; (3) to assume positions of leadership in organizing and conducting recreation programs for summer camps, county and municipal recreation departments and

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

various youth organizations; (4) to serve as teachers, coordinators and directors of health education in schools, in state, county and municipal health departments, and in voluntary health agencies.

PHA 151—INTRODUCTION TO PHYSICAL EDUCATION, HEALTH EDUCATION AND RECREATION. 3 credits
Offered 1, 2. An orientation to the fields of physical education, health education and recreation including historical background, program, qualifications, training and professional opportunities.

PHA 251—SQUARE AND SOCIAL DANCE. 2 credits. Offered 1. Basic skills in square and social dancing.

PHA 252—MODERN DANCE. 1 credit
Offered 2. Fundamentals of movement and its rhythmic structure.

PHA 253—TEAM SPORTS FOR WOMEN. 2 credits
Offered 2. Skills, strategy and application of rules for field hockey, softball, track and field.

PHA 254—TEAM SPORTS FOR WOMEN. 2 credits
Offered 1. Skills, strategy and application of rules for volleyball, soccer, speedball, and basketball.

PHA 255—RECREATIONAL SPORTS. 2 credits
Offered 2. Skills, strategy, and application of rules for archery, badminton, bowling, bait casting, and other recreational activities. Open to men and women.

PHA 256—SWIMMING AND DIVING FOR WOMEN. 1 credit
Offered 1. Prerequisite: Permission of the instructor. Basic skills and teaching methods for swimming and diving; conduct of swimming meets.

PHA 257—GYMNASTICS FOR WOMEN. 1 credit
Offered 2. Stunts, tumbling, pyramid building; apparatus; body mechanics; conditioning exercises.

PHA 258—TENNIS AND GOLF FOR WOMEN. 2 credits
Offered 2. Theory and practice in tennis and golf with respect to skills, strategy, application of rules, teaching methods and the conduct of matches and tournaments.

PHA 261—PERSONAL HYGIENE. 3 credits
Offered 1, 2. Basic health principles for protection and promotion of individual health, Emphasis is given to: mental hygiene; parenthood; nutrition; infection and disease prevention.

PHA 262—COMMUNITY HYGIENE. 3 credits
Offered 1. Community organization and measures for protecting, maintaining, and improving the health of the societal group.

PHA 281—FOOTBALL. 2 credits
Offered 1. Skills, rules, coaching methods, offensive and defensive team play in football.

PHA 282—BASKETBALL. 2 credits
Offered 2. Skills, rules, coaching methods, offensive and defensive team play in basketball.

PHA 283—TRACK AND BASEBALL. 2 credits
Offered 2. Skills, rules and coaching methods in track and baseball.

PHA 284—TEAM GAMES FOR MEN. 2 credits
Offered 1. Skills, rules, strategies and teaching methods in volleyball, touch football, softball, basketball, soccer, speedball and gator ball.

PHA 285—INDIVIDUAL AND DUAL SPORTS FOR MEN. 2 credits
Offered 1. Skills, rules, strategies and teaching methods in tennis, handball, golf, and other individual and dual activities.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PHA 286—AQUATICS. 2 credits
Offered 2. Skills, knowledges, and teaching methods in swimming and diving. Open to men and women.

PHA 287—GYMNASTICS FOR MEN. 2 credits
Offered 2. Skills, knowledges, and teaching methods in gymnastics, tumbling, combatives, and developmental activities.

PHA 303—TEACHING OF SWIMMING. 1 credit
Offered 1. Prerequisite: PHA 256 or permission of the instructor. Teaching methods and advanced skills for swimming and diving; skills in life saving and water safety.

PHA 304—SYNCHRONIZED SWIMMING. 1 credit
Offered 2. Prerequisite: PHA 256 or PHA 286 or permission of the instructor, Individual, dual and group techniques in synchronized swimming; composition and production.

PHA 305—TEACHING AND OFFICIATING TEAM SPORTS FOR WOMEN. 2 credits
Offered 1. Prerequisites: PHA 253, 254. Methods of teaching and officiating volleyball, basketball, and field hockey.

PHA 306—TEACHING AND OFFICIATING TEAM SPORTS FOR WOMEN. 2 credits
Offered 2. Prerequisites: PHA 253, 254. Methods of teaching and officiating softball, soccer, and speedball.

PHA 307—TEACHING OF FOLK, SOCIAL AND TAP DANCE. 2 credits
Offered 1. Prerequisite: PHA 251. Theory and practice in teaching folk, square, social and tap dance.

PHA 308—TEACHING OF MODERN DANCE. 2 credits
Offered 2. Prerequisite: PHA 252. Theory and practice in teaching modern dance; approaches to composition; dance accompaniment.

PHA 309—DANCE COMPOSITION. 1 credit
Offered 1. Modern dance composition with respect to form, design, dynamics, and rhythm.

PHA 310—DANCE COMPOSITION. 1 credit
Offered 2. Individual and group composition in modern dance for production, including staging and costuming.

PHA 315—APPLIED ANATOMY AND PHYSIOLOGY. 3 credits
Offered 1, 2. Prerequisite: C-6. The structure and function of the body and its systems, and their application to the fields of physical education and health education.

PHA 316—PHYSIOLOGY OF EXERCISE. 2 credits
Offered 1, 2. Prerequisite: PHA 315. Study of the physiological affects and adjustments accruing from physical activity, and their implications for the physical education program.

PHA 322—CAMP PROGRAMS AND COUNSELOR TRAINING. 3 credits
Offered 2. The training of counselors for organized camping. Including camp craft, nature and woods lore and informal activities.

PHA 324—SOCIAL RECREATION. 3 credits
Offered 1, 2. Methods, materials, and techniques of planning and conducting social recreation programs.

PHA 325—CONDUCT OF PLAYGROUNDS AND INDOOR CENTERS. 3 credits
Offered 1, 2. For recreation workers, school personnel and volunteers interested in the operation of recreation programs. Including facilities, personnel, program, and problems of administration.

PHA 361—ELEMENTARY SCHOOL HEALTH PROGRAM. 3 credits
Offered 1, 2, 3. The school health program with procedures for protecting and improving the health of the child through health instruction, health services, and healthful school living.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PHA 362—SECONDARY SCHOOL HEALTH PROGRAMS. 3 credits
Offered 2. Procedures in developing and conducting health instruction and coordination of school health activities with the total school program, with public health agencies, and with other community groups.

PHA 363—TEACHING PHYSICAL EDUCATION IN THE SECONDARY SCHOOL. 3 credits
Offered 1, 2. Prerequisite: Satisfactory completion of all required PHA activity courses. Materials, content and techniques in the teaching of physical education on the secondary school level.

PHA 369—SCHOOL SAFETY EDUCATION. 2 credits
Offered 1. General safety content as applied in elementary and secondary school programs. Methods and materials for teaching safety, and the organization of safety education programs.

PHA 373—TEACHING PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL. 3 credits
Offered 1, 2, 3. Physical education activities for the elementary school including organizing and conducting such a program.

PHA 375—ADAPTED PHYSICAL EDUCATION. 3 credits
Offered 1, 2. Prerequisite: PHA 315. The program of adapted physical education for secondary schools; physiology of exercise and kinesiology as applied to pupils with physical limitations.

PHA 376—FIRST AID AND INJURIES. 2 credits
Offered 1, 2, 3. Prerequisite: Limited to Upper Division students. Standard and accepted principles of first aid.

PHA 391—PRINCIPLES OF PHYSICAL EDUCATION. 3 credits
Offered 1, 2. Principles underlying contemporary theory and practice in physical education.

PHA 421—DRIVER EDUCATION AND TRAFFIC SAFETY. 3 credits
Offered 1, 2. Limited to Upper Division students who hold a valid driver's license. Prepares teachers to conduct driver education courses on the secondary school level.

PHA 422—THE TEACHING OF DRIVER AND TRAFFIC SAFETY EDUCATION. 3 credits
Offered 2, 3. Prerequisite: PHA 421. Organization, administration, specialized information and techniques essential to the teaching of driver education. Includes laboratory teaching experiences for giving driving instruction.

PHA 441—ADMINISTRATION OF PHYSICAL EDUCATION AND ATHLETICS. 3 credits
Offered 1, 2. Prerequisite or corequisite: PHA 363. Policies, standards, and procedures as they pertain to the administration of physical education and athletic programs.

PHA 446—ADMINISTRATION OF COMMUNITY RECREATION. 3 credits
Prerequisite: Limited to Upper Division students. Problems involved in organizing and administering community recreation and school-community programs.

PHA 449—THE OPERATION OF RECREATION PROGRAMS. 15 credits
Offered 1 2. Prerequisite: Permission of the instructor. Practical field experience in selected off-campus recreation programs under the supervision of this College and Recreation Department staffs.

PHA 484—TESTS AND MEASUREMENTS IN PHYSICAL EDUCATION. 2 credits
Offered 1, 2. Prerequisite: C-42 or the equivalent. Tests and measures of motor traits, organic development, neuromuscular development, sports knowledges, and attitudes related to physical education.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PHA 491—THE OPERATION OF COMMUNITY HEALTH EDUCATION PROGRAMS. 3 credits
Prerequisite: Permission of the instructor. Problems in operating public health education. Field experiences conducted with official and voluntary health agencies.

PHA 560—ADMINISTRATION OF SCHOOL HEALTH PROGRAMS. 3 credits
Graduate major credit. Policies and procedures in organizing and administering health programs for health workers, school administrators, supervisors and teachers.

PHA 570—WORKSHOP IN INDIVIDUAL-DUAL SPORTS. 3 credits
Offered 3. Graduate major credit. A workshop designed to provide teachers an opportunity to explore current trends in the teaching of dual sports.

GRADUATE COURSES

PHA 601—INTERPRETATIONS OF PHYSICAL EDUCATION. 3 credits

PHA 605—RESEARCH METHODS IN PHYSICAL EDUCATION, HEALTH EDUCATION, RECREATION. 3 credits

PHA 606—INDIVIDUAL WORK. 3 credits

PHA 610—EVALUATION PROCEDURES IN PHYSICAL EDUCATION AND HEALTH EDUCATION. 3 credits

PHA 612—PHYSIOLOGICAL BASES OF PHYSICAL EDUCATION. 3 credits

PHA 616—THE PHYSICAL EDUCATION CURRICULUM. 3 credits

PHA 618—THE COLLEGE PHYSICAL EDUCATION PROGRAM. 3 credits

PHA 620—PROBLEMS IN THE ADMINISTRATION OF ATHLETICS. 3 credits

PHA 633—PROBLEMS IN PHYSICAL EDUCATION. 3 credits

PHA 645—PHYSICAL EDUCATION WORKSHOP SERIES. 6 credits

PHA 699—RESEARCH AND MASTER'S THESIS. 0-6 credits

Required Physical Education for Men

INSTRUCTIONAL STAFF 1960-61

Waglow, I. F., Acting Head; Amor, M.; Bedecki, T. G.; Benz, W. P.; Crone, E. G.; Dykes, B. M.; Eckdahl, J. P.; Garrett, G. E.; Harlan, W. E.; Hester, J. D.; Lee, P. A.; Lie, J. G.; Mathews, E. D.; McCachren, J. R.; Millar, J. C.; Mooney, E. G.; Moore, A. C.; Nixon, M. S.; Philpott, F. E.; Pofahl, M. E.; Potter, W. M.; Rehling, C. H.; Reisinger, R. H.; Schultz, D. L.; Scott, T. M.; Stephens, F. W.; Welsch, W. R.

PL 101—FIRST SEMESTER PHYSICAL FITNESS AND SPORTS FOR MEN. 4 hours. Offered 1, 2. The basic program.

PL 102—SECOND SEMESTER PHYSICAL FITNESS AND SPORTS FOR MEN. 4 hours. Offered 1, 2. The sports program.

PL 103—THIRD SEMESTER PHYSICAL FITNESS AND SPORTS FOR MEN. 4 hours. Offered 1, 2. The sports program.

PL 104—FOURTH SEMESTER PHYSICAL FITNESS AND SPORTS FOR MEN. 4 hours. Offered 1, 2. The sports program.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

Required Physical Education for Women

INSTRUCTIONAL STAFF 1960-61

Leavitt, N. M., Head; Amor, M., Bedecki, T. G., Crickenberger, M. E., Edmondson, C., Lee, P. A., Lie, J. G., Mathews, E. D., Millar, J. C., Nixon, M. S., Philpott, F. E., Pofahl, M. E., Pye, R. L., Rehling, C. H., Stephens, F. W., Waglow, I. F.

PL 151—FIRST SEMESTER PHYSICAL EDUCATION FOR WOMEN. 4 hours.
Offered each semester.

PL 152—SECOND SEMESTER PHYSICAL EDUCATION FOR WOMEN. 4 hours.
Offered each semester.

PL 153—THIRD SEMESTER PHYSICAL EDUCATION FOR WOMEN. 4 hours
Offered each semester.

PL 154—FOURTH SEMESTER PHYSICAL EDUCATION FOR WOMEN. 4 hours.
Offered each semester.

Physical Therapy

White, B. C., Head; Nelson, J. B.; Rutan, F. M.; Wroe, M. C.

See also courses under Health Related Services (HRS).

PHT—301—INTRODUCTION TO PHYSICAL THERAPY. 2 credits
Offered 1. Prerequisite: HRS 201. Current trends in physical therapy and their relationship to medical practice. Introduction to patient care.

PHT 311—ELEMENTARY THEORY AND APPLICATION. 3 credits
Offered 1. Corequisite: PHT 301. Body mechanics, hydrotherapy and massage. Evaluation of physical disability as demonstrated by performance tests.

PHT 312—INTERMEDIATE THEORY AND APPLICATION. 3 credits
Offered 2. Prerequisites: PHT 311, PS 109-110. Analysis and treatment of muscle and joint dysfunction. Use of radiant energy as a therapeutic agent.

PHT 332—HUMAN ANATOMY. 5 credits
Offered 2. Prerequisites: BTY 180 and BLY 181. Open to Physical Therapy students and others with permission of instructor. The macroscopic structures of the human body with emphasis on the neuromuscular and musculo-skeletal systems utilizing lectures, demonstrations and laboratory dissection.

PHT 334—DYNAMICS OF HUMAN MOTION. 3 credits
Offered 2. Prerequisite: PS 109-110. Corequisites: PHT 332 and BLY 574. Mechanical and physiological principles related to co-ordinated human movement.

PHT 411—ADVANCED THERAPEUTIC EXERCISE. 4 credits
Offered 1. Prerequisite: PHT 312. Therapeutic exercise in the management of pathological conditions. General convalescent exercise programs.

PHT 412—ADVANCED THERAPEUTIC EXERCISE. 4 credits
Offered 2. Prerequisite: PHT 411. Advanced therapeutic exercise. Functional retraining for physical independence. Utilization of supportive and assistive devices.

PHT 451—ELECTROTHERAPY AND ELECTRODIAGNOSTIC PROCEDURES. 3 credits
Offered 1. Prerequisites: PS 109-110, BLY 574. Utilization of low and high frequency electrical currents for diagnosis and treatment.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PHT 462—PHYSICAL THERAPY SEMINAR. 2 credits
Offered 2. Prerequisite: PHT 491. Administrative procedures and employment practices of physical therapy services in various types of institutions and agencies. Professional organizations.

PHT 491—SUPERVISED PRACTICUM. 2 credits
Offered 1. Prerequisite: PHT 312. Corequisite: PHT 411. An internship-type experience providing students the opportunity for supervised work in the physical therapy department.

PHT 492—SUPERVISED PRACTICUM. 3 credits
Offered 2. The second half of the course PHT 491-492.

Physics

INSTRUCTIONAL STAFF 1960-61

Ballard, S. S., Head; Ard, W. B.; Bailey, T. L.; Broyles, A. A.; Carr, T. D.; Dunnam, F. E.; Faulkner, J. S.; Flowers, J. W.; Hoag, J. B.; Kronsbein, J.; Lafferty, D. L.; Lowdin, P. O.; Omer, G. C.; Sawyer, E. M.; Schrader, H. W.; Scott, T. A.; Smith, A. G.; Stetson, R. F.; Swanson, D. C.; Teller, M. H.; Thomas, B. S.

Students planning on an undergraduate major in physics should consult the departmental major adviser, Dr. D. C. Swanson, Room 107B Physics Building. In preparation for this major program the following courses should be taken: in the freshman year, MS 205-206 and CY 217-218; in the sophomore year, PS 205-206-207-208-209-210, MS 353-354, and GN 133-134 or FH 133-134 or RSN 133-134. The upper division program will be selected under the guidance of the major adviser.

PS 109—ELEMENTS OF PHYSICS. 3 credits
Offered 2. Prerequisite: one year of high school algebra, or MS 109. Largely demonstration in nature. A terminal course presenting selected topics in mechanics, heat, sound, light, electricity, and modern physics.

PS 110—ELEMENTS OF PHYSICS. 1 credit
Offered 2. Corequisite: PS 109. Recitations and problem work.

PS 201—GENERAL PHYSICS. 3 credits
Offered 1, 2, 3. The first half of the course PS 201-202. Prerequisite: MS 205. Corequisite:

PS 207. May be taken for credit without PS 202. Intended primarily for students who are not majoring in the physical sciences.

PS 202—GENERAL PHYSICS. 3 credits
Offered 1, 2, 3. The second half of the course PS 201-202. Corequisite: PS 208.

PS 205—GENERAL PHYSICS. 3 credits
Offered 1, 2, 3. The first part of the course PS 205-206-303. Prerequisites: MS 205-206. Corequisites: PS 207, MS 353. May be taken for credit without PS 206 or 303. Theory of mechanics and heat. Primarily for physics majors and engineering students.

PS 206—GENERAL PHYSICS. 3 credits
Offered 1, 2, 3. The second part of the course PS 205-206-303. Corequisites: PS 208, MS

354. May be taken for credit without PS 303. Theory of electricity and magnetism, wave motion and sound.

PS 207—LABORATORY FOR PHYSICS 201 and 205. 1 credit
Offered 1, 2, 3. The first half of the course PS 207-208. Corequisite: PS 201 or 205. May be taken for credit without PS 208.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PS 208—LABORATORY FOR PHYSICS 202 and 206. 1 credit
Offered 1, 2, 3. The second half of the course PS 207-208. Corequisite: PS 202 or 206.

PS 209—PROBLEMS IN PHYSICS. 1 credit
Offered 1. Corequisite: PS 205. Designed primarily for physics majors or other qualified students who desire more problem work than is afforded in PS 205.

PS 210—PROBLEMS IN PHYSICS. 1 credit
Offered 2. Corequisite: PS 206. Designed primarily for those who did well in PS 205.

PS 303—GENERAL AND MODERN PHYSICS. 3 credits
Offered 1, 2, 3. The last part of the course PS 205-206-303. Theory of optics and introductory modern physics.

PS 305—MECHANICS. 3 credits
Prerequisites: one year of college physics and calculus. Introduction to vector mechanics; statics, dynamics of particles, and introduction to the dynamics of rigid bodies.
The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PS 309—OPTICS. 3 credits
Prerequisites: One year of college physics and calculus. Lenses, optical instruments, interference, diffraction, dispersion, and polarization.

PS 310—OPTICS IN THE LABORATORY. 1 credit
Corequisite: PS 309. Selected experiments in refraction, dispersion, diffraction, and polarization.

PS 311—ELECTRICITY AND MAGNETISM. 3 credits
Offered 1, 2. Prerequisites: one year of college physics and calculus. Electrostatic and magnetic fields, introduction to scalar and vector products, electromagnetic induction, ion motion.

PS 314—PHYSICS FOR TEACHERS. 3 credits
Prerequisite: PS 201-202. Topics selected from dynamics, optics, Bohr theory of the atom, electricity and magnetism, X-rays, photo-electricity, and nuclear physics. Designed to meet the needs of teachers and non-physics majors.

PS 315—MODERN PHYSICS FOR TEACHERS. 3 credits
Offered by extension only, in conjunction with the nationally televised "CONTINENTAL CLASSROOM." Selected topics in modern, atomic, and nuclear physics, intended primarily for high school science teachers.

PS 320—MODERN PHYSICS. 3 credits
Prerequisites: One year of college physics. Corequisite: calculus. The atomic and electrical nature of matter, elementary particles, the nucleus, Bohr theory, absorption and emission of X-rays, atomic spectra, radioactivity.

PS 402—ELECTRICAL MEASUREMENTS. 1 credit
Offered 1, 2. Prerequisite: PS 311. Laboratory experience in basic electric and magnetic measurements. Experiments include precision potentiometer methods, alternating-current bridges, thermionic emission, and amplification.

PS 407—THERMODYNAMICS. 3 credits
Prerequisites: one year of college physics and calculus. The first and second laws of thermodynamics. Thermodynamic functions and examples of their application in physical chemistry and engineering. Statistical mechanical interpretation of thermodynamic functions.

PS 420—NUCLEAR PHYSICS. 3 credits
Prerequisite: PS 303 or 320. The elementary theory of the nucleus, fundamental particles, natural and artificial radioactivity, and nuclear reactions.

PS 430—INDIVIDUAL WORK. 1 or 3 credits
Offered 1, 2, 3. Prerequisite: 12 hours of Physics. Qualified undergraduate students may study selected topics in Physics. Available for full credit in subsequent sessions with change of content.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

PS 501—ELECTRONICS. 3 credits
Prerequisite: PS 311. Available for graduate major credit. Properties of electron tubes; thermionic emission; gas conduction; semiconductors; amplification and its limitations; electronic methods of measurements.

PS 502—ELECTRIC AND MAGNETIC FIELDS. 3 credits
Prerequisites: two years of college physics; calculus. Corequisite: MS 522. Available for graduate major credit. A systematic development of electromagnetic theory culminating in Maxwell's equations. Field concepts and vector methods are used throughout.
The statement "Offered 1" means offered first semester; 2 second semester; 3, summer session.

PS 504—RESEARCH TECHNIQUES. 3 credits
Offered 1. Prerequisite: 2 years of college physics. Available for graduate major credit. Theory of practice of laboratory techniques most frequently required in experimental research. Includes drawing and fabrication of apparatus, glassblowing, design and operation of vacuum systems, technical photography, statistical treatment of data. Prerequisite for graduate research in experimental physics.

PS 505—(Identical with EM 536)—INTERMEDIATE DYNAMICS. 3 credits
Prerequisites: two years of college physics or equivalent and calculus. Available for graduate major credit. The motion of particles and rigid bodies under constant and variable forces. An introduction to the equations of Hamilton and Lagrange.

PS 507—ADVANCED MODERN PHYSICS. 3 credits
Offered 1. Prerequisites: PS 311 and 320 or equivalents, and MS 521 or equivalent. Available for graduate major credit. A quantitative development of selected topics in modern physics such as quantum mechanics, quantum statistics, atomic structure, radiation, and relativity.

PS 508—INTRODUCTORY SOLID STATE PHYSICS. 3 credits
Prerequisite: PS 303 or 320. Available for graduate major credit. A general introduction to solid state physics for non-specialists. Crystal structure; thermal, electrical, and magnetic properties of solids.

PS 509—PHYSICAL OPTICS. 3 credits
Offered 2. Prerequisite: PS 309; Corequisite: differential equations. Available for graduate major credit. An advanced course in classical physical optics and its applications.

PS 510—ASTROPHYSICS. 3 credits
Offered 1. Prerequisite: 2 years of college physics. Available for graduate major credit. Application of physical methods, including radio astronomy, to the study of geophysical and astrophysical problems. Emphasis is placed on topics of current interest in space science, such as upper atmospheric physics, solar phenomenon, and the physics of the planets.

PS 519—LABORATORY TECHNIQUES IN NUCLEAR PHYSICS. 1 credit
Prerequisite: PS 420 or equivalent. Available for graduate major credit. Experiments include: detection of and energy measurements for fundamental particles using Geiger counters, scintillation counters, and coincidence and differential pulse-height analyzers; nuclear reactions.

GRADUATE COURSES

PS 601—THEORETICAL PHYSICS. 3 credits

PS 602—THEORETICAL PHYSICS. 3 credits

PS 603—KINETIC THEORY OF GASES AND STATISTICAL MECHANICS. 3 credits

PS 604—CONDUCTION OF ELECTRICITY THROUGH GASES. 3 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PS 605—PLASMA PHYSICS. 3 credits

PS 607—ADVANCED ELECTRONICS. 3 credits

PS 612—ELEMENTS OF QUANTUM MECHANICS. 3 credits

PS 613—QUANTUM MECHANICS. 3 credits

PS 614—LOW TEMPERATURE PHYSICS. 3 credits

PS 620—THEORY OF OPTICAL SPECTRA. 3 credits

PS 623—SEMINAR IN MODERN THEORY. 1 or 3 credits

PS 625—EXPERIMENTAL FOUNDATIONS OF NUCLEAR PHYSICS. 3 credits

PS 629—RELATIVITY. 3 credits

PS 630—INDIVIDUAL WORK. 1 or 3 credits

PS 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

PS 701—ADVANCED QUANTUM MECHANICS. 3 credits

PS 702—THEORETICAL NUCLEAR PHYSICS. 3 credits

PS 703—THEORETICAL NUCLEAR PHYSICS. 3 credits

PS 711—ADVANCED THEORETICAL MECHANICS. 3 credits

PS 712—ADVANCED ELECTROMAGNETIC THEORY. 3 credits

PS 713—ADVANCED STATISTICAL MECHANICS. 3 credits

PS 715—PHYSICS OF THE SOLID STATE I. 3 credits

PS 716—PHYSICS OF THE SOLID STATE II. 3 credits

PS 721—THEORY OF MOLECULAR STRUCTURE I. 3 credits

PS 722—THEORY OF MOLECULAR STRUCTURE II. 3 credits

PS 799—DOCTORAL DISSERTATION. 1 to 12 credits

Plant Pathology

INSTRUCTIONAL STAFF 1960-61

Decker, P., Head; C. W. Anderson, A. A. Cook, M. K. Corbett, T. E. Freeman, H. H. Luke, H. N. Miller, A. S. Muller, D. A. Roberts, G. F. Weber, E. West.

BTY 180 or its equivalent is a prerequisite to any course in Plant Pathology. PT 321 or its equivalent is a prerequisite to all other courses in Plant Pathology except PT 434 and PT 632. PT 434 or its equivalent is a prerequisite to PT 607, PT 634, PT 643, and PT 644.

PT 321—PLANT PATHOLOGY. 3 credits
Offered 1, 3. A study of the principles of plant disease and of how these principles are applied in the science of Plant Pathology. The understanding of life histories of plant pathogens and of development of control measures is accomplished through detailed laboratory study of representative diseases of vegetable, ornamental, fruit, forest, and field crops.

PT 427—PLANT DISEASES. 3 or 6 credits
Offered 1 annually, 3 in odd years. Prerequisite: PT 321. The study of plant diseases in the following areas: fruit crops, field crops, ornamental plants, and vegetable crops. Three credits may be earned in any selected area, an additional three credits in a second selection. The instruction will emphasize the economically significant disease of these plants.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PT 428—PLANT DISEASE. 3 or 6 credits
Offered 2 annually, 3 in even years. Prerequisite PT 321. The study of plant diseases in the following areas: forestry, citrus, tropical and subtropical plants, or bacetrial diseases of plants. Three credits may be earned in any selected area, and additional three credits in a second selection. The instruction will emphasize the economically significant diseases of these plants.

PT 434—MYCOLOGY. 3 credits
Offered 2. A study of fungi that pertains specifically to Morphology, nomenclature and classification, according to recognized standards and accepted opinions of experts.

PT 442—PLANT DISEASE CONTROL. 3 credits
Offered 2. Prerequisite: PT 321 or equivalent. The control of plant diseases through applications of the principles of exclusion and eradication of plant pathogens and by protectoin and resistance of plants.

GRADUATE COURSES

PT 605—HISTORY OF PLANT PATHOLOGY. 1 credit

PT 606—LITERATURE OF PLANT PATHOLOGY. 1 credit

PT 607—PLANT DISEASE COLLECTION. 2 credits

PT 623—ADVANCED PLANT PATHOLOGY. 3-6 credits

PT 632—NEMATODE DISEASES OF PLANTS. 3 credits

PT 635—PLANT VIROLOGY. 4 credits

PT 643—PLANT PATHOGENESIS. 4 credits

PT 644—PHYSIOLOGY AND GENETICS OF INFECTION IN PLANTS. 4 credits

PT 655—SEMINAR. 1 credit

PT 699—MASTER'S THESIS. 0-6 credits. Maximum 12 credits

PT 799—DOCTORAL DISSERTATION. 1-12 credits

Political Science

INSTRUCTIONAL STAFF 1960-61

Dauer, M. J., Head; Bartley, E. R.; Carleton, W. G.; Clubok, A. B.; DeGrove, J. M.; Dovell, J. E.; Downing, R. G.; Farris, C. D.; Hanna, P. L.; Hartmann, F. H.; Heidenheimer, A. J.; Kaminsky, E.; Kammerer, G. M.; Kantor, H. (on leave 1960-61); Moses, C. C.; Spanier, J. W.; Svarlien, O.; Wolff, G. E.

The department offers general courses in political science, and more specialized offerings in public administration, and international affairs and foreign service training.

Students registering in Political Science should take note of the prerequisites as listed in the course descriptions. PCL 201, American Federal Government, is required of all majors in Political Science. Majors are also required to offer *either* PCL 202, American State and Local Government, *or* PCL 203, American Government: Policy and Functions. A student offering the minimum of twenty-four hours in Political Science in fulfillment of major requirements may have no more than twelve hours of Political Science courses at the 200 level.

Graduate courses and seminars are offered leading to both the M.A. and Ph.D degrees. These courses are numbered in the 600 series and are open only to graduate students.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PCL 201—AMERICAN FEDERAL GOVERNMENT. 3 credits
Offered 1, 2, 3. Basic principles of the Federal Constitution. Civil Rights. Political parties and the electoral process. The structure and machinery of the federal government, including the Congress, President, and Judiciary.

PCL 202—AMERICAN STATE AND LOCAL GOVERNMENT. 3 credits
Offered 1, 2. State constitutions, political parties, and politics. State legislatures, courts, and chief executives. The functions of state governments. City and county government.

PCL 203—AMERICAN GOVERNMENT: POLICY AND FUNCTIONS. 3 credits
Offered 1, 2. Prerequisite: PCL 201. The determination of public policy. Influence of political parties, pressure groups, legislatures, executives, and courts in determining public policy. The functions of government.

PCL 209—INTERNATIONAL RELATIONS. 3 credits
Offered 1, 2. Prerequisite: C-1 or equivalent. The nature of international relations; nationalism, imperialism, militarism, armaments; history of international relations; foreign policies; functions and problems of democracy; international organization; the United Nations.

PCL 210—INTERNATIONAL RELATIONS. 3 credits
Offered 1, 2. Prerequisite: PCL 209. The second half of the course PCL 209-210.

PCL 301—AMERICAN CONSTITUTIONAL LAW. 3 credits
Offered 1. Prerequisite: PCL 201. A complete study and analysis of the Federal Constitution, with study and briefing of leading cases in constitutional law.

PCL 302—AMERICAN CONSTITUTIONAL LAW. 3 credits
Offered 2. Prerequisite: PCL 301. The second half of the course PCL 301-302.

PCL 303—INTERNATIONAL LAW. 3 credits
Offered 1. Prerequisite: PCL 209-210 or PCL 201. Study of the main principles of the Law of Nations; case study to illustrate its application; the World Court; the War Crimes trials; decisions in the United States involving questions of International Law.

PCL 304—INTERNATIONAL LAW. 3 credits
Prerequisite: PCL 209-210 or PCL 201. Second half of the course PCL 303-304.

PCL 305—HISTORY OF POLITICAL THEORY. 3 credits
Offered 1. Prerequisite: 6 hours of Political Science. Leading political theorists from Plato and Aristotle to Hobbes.

PCL 306—HISTORY OF POLITICAL THEORY. 3 credits
Offered 2. Prerequisite: 6 hours of Political Science. The second half of the course PCL 305-306. Leading political theorists from Hobbes to the present.

PCL 307—COMPARATIVE GOVERNMENT. 3 credits
Offered 1. Prerequisite: 6 hours of Political Science. The government and politics of Great Britain and the Commonwealth of Nations. Special emphasis on historical, cultural, social, and economic determinants of current institutions and policies. Constitutions, parties, legislatures, executives, civil service systems, law, and local government.

PCL 308—COMPARATIVE GOVERNMENT. 3 credits
Offered 2. Prerequisite: 6 hours of Political Science. The second half of the course PCL 307-308. The government and politics of France, Italy, Germany, and the U.S.S.R. A comparative analysis of the theory and practice of modern totalitarianism.

PCL 311—PUBLIC ADMINISTRATION AND THE POLITICAL PROCESS. 3 credits
Offered 1. Prerequisite: PCL 201. The role of administrative agencies in the formulation and implementation of public policy. Emphasis on the politics of administration. Problems in administrative management.

PCL 312—PROBLEMS OF ADMINISTRATION AND POLICY. 3 credits
Offered 2. Prerequisite: PCL 311. The second half of the course PCL 311-312. A treatment of the political-administrative dimensions of government planning, personnel, and finance.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PCL 320—POLITICAL PARTIES. 3 credits
Offered 1. Prerequisite: 6 hours in Political Science including PCL 201. The composition of American political parties. The distinction between political parties and pressure groups; what groups compose our major parties and our minor parties.

PCL 321—POLITICAL PARTIES. 3 credits
Offered 2. Prerequisite: 6 hours in Political Science including PCL 201. The second half of the course PCL 320-321. The organization and structure of American political parties. Prerequisites of voting; party committees and party organizations; political bosses and political machines; party conventions and party primaries.

PCL 323—SEMINAR IN CURRENT WORLD EVENTS: GERMAN SOURCES. 2 credits
Prerequisite: GN 202. Conducted in German. The Department of Political Science and the Department of Foreign Languages cooperate in offering a study of current world events as reported in contemporary German-language sources.

PCL 400—POLITICAL SCIENCE FOR TEACHERS. 3 credits
Special course for graduate students in College of Education. Designed for teachers who are in need of: (1) special topics; or (2) certain areas not covered in their general undergraduate work in the social sciences; or (3) needing additional work in certain fields. May be taken more than once when content is different.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

For undergraduates, upper division standing, including 12 hours of the social sciences, is necessary for admission to 500 courses, plus specific requirements in political science as indicated for the course.

A limited number of 500 courses may be taken for graduate major credit with approval of the student's graduate Supervisory Committee and the department head. Additional work in these courses is required of graduate students.

PCL 509—AMERICAN FOREIGN POLICY. 3 credits
Offered 1. Prerequisite: PCL 209-210 or HY 245-246. Available for graduate major credit. The United States in world affairs. Analysis of American foreign policy, past and present, in order to bring out the basic policies and the forces behind these policies.

PCL 510—ANALYSIS OF POLITICAL SCIENCE. 3 credits
Prerequisite: 12 hours of Political Science or PCL 201 and senior standing in social sciences. Available for graduate major credit. Deals with the area of political science as a discipline, its problems and its methods. The nature of political science; the state, its origins, scope and relationship to authority; the bases of political action, leadership, groups, public opinion, elections, parties and pressure groups; governmental organization and liberty and authority.

PCL 512—URBAN, SUBURBAN, AND METROPOLITAN GOVERNMENT. 3 credits
Prerequisite: PCL 201-202. Emphasis on the problems of the growing town, city, and suburban areas. The Metropolis. Politics of local government. Problems in local government administration. Includes city, county, and regional governments.

PCL 516—ADMINISTRATIVE LAW. 3 credits
Offered 2. Prerequisite: PCL 201. Available for graduate major credit. Administrative process and its role in the American Constitutional System, including the legal nature of regulatory authority, the status and liability of administrative officers, administrative tribunals, and judicial review of administrative actions.

PCL 517—LEGISLATION. 3 credits
Offered 2. Prerequisite: PCL 201. Available for graduate major credit. The legislative process. Bicameralism vs. Unicameralism. Legislative qualifications. Legislative procedure. Lobbies and pressure groups.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PCL 522—GOVERNMENT IN THE FAR EAST. 3 credits
Prerequisite: 6 hours of Political Science or HY 382. Available for graduate major credit. An analysis of the government and political process in China and Japan. Special emphasis on the historical, social, and economic determinants of current political institutions and political behavior.

PCL 524—ADVANCED INTERNATIONAL RELATIONS. 3 credits
Offered 2. Prerequisites: PCL 209-210. Available for graduate major credit. Basic principles of international relations applied to major and continuing problems; the new balance of power in Europe and Asia; the new Germany and Japan; the U.N. and Korea.

PCL 526—GOVERNMENT AND POLITICS OF THE DEVELOPING COUNTRIES. 3 credits.
Prerequisites: PCL 201 or PCL 209-210. Available for graduate major credit. Newly emerging areas of the world in Africa, Asia and the Middle East. Political and governmental problems of these areas.

PCL 530—INDIVIDUAL WORK. 3 credits
Available for graduate major credit. Readings and discussions in advanced topics in political science. Open only to students majoring in political science who need background work in certain areas of political science. Registration only with permission of departmental graduate advisor or department head. May be elected for full credit in subsequent sessions with change of content.

PCL 531—POLITICAL BEHAVIOR. 3 credits
Prerequisites: PCL 201 and one from the following courses: ES 203, PSY 211, or MS 310. Available for graduate major credit. Alternative concepts of political behavior. The semantics of political behavior. Quantitative analysis of political behavior. Applications.

PCL 540—INTERNATIONAL RELATIONS OF THE AMERICAN REPUBLICS. 3 credits
Prerequisites: PCL 209-210 or advanced standing in Inter-American Studies. Available for graduate major credit. Major emphasis on the foreign policies of Latin American states *vis-a-vis* one another. Brief consideration of reciprocal relations of Latin-American republics with other powers.

PCL 541—GOVERNMENT AND POLITICS OF SOUTH AMERICA. 3 credits
Offered 1. Prerequisite: PCL 201. Available for graduate major credit. The governmental and political practices of South American republics.

PCL 542—GOVERNMENT AND POLITICS OF THE CARIBBEAN COUNTRIES. 3 credits
Offered 2. Prerequisite: PCL 201. The second half of the course PCL 541-542. Available for graduate major credit. The governmental and political practices of the Caribbean countries.

PCL 551—PUBLIC LAW AND BUSINESS. 3 credits
Prerequisites: ES 201-202. Available for graduate major credit. Constitutional power and business regulations. Right to do business. Prohibition of business. Protection and development of favored industries. Restraint of trade. Price-fixing. Constitutional power in relation to quality, quantity, and purity of product.

PCL 591—MASTERPIECES IN THE SOCIAL SCIENCES. (IDENTICAL WITH ES 591, HY 591, AND SY 591). 3 credits
Offered 1. Prerequisites: Senior standing and a major in one of the social sciences. Available for graduate major credit. For advanced students with background work in the social sciences who have approval of their major adviser and the course chairman. Reading of classics in economics, history, political science, sociology and cultural anthropology.

PCL 592—MASTERPIECES IN THE SOCIAL SCIENCES. (IDENTICAL WITH ES 592, HY 592, AND SY 592). 3 credits
Prerequisites: Senior standing and a major in one of the social sciences. The second half of the course PCL 591-592. Available for graduate major credit.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

GRADUATE COURSES

PCL 613—SEMINAR IN SCOPE AND METHOD. 3 credits

PCL 625—SEMINAR IN PUBLIC ADMINISTRATION. 3 credits

PCL 626—SEMINAR IN PUBLIC ADMINISTRATION. 3 credits

PCL 627—SEMINAR IN INTERNATIONAL RELATIONS AND ORGANIZATION. 3 credits

PCL 628—SEMINAR IN INTERNATIONAL RELATIONS AND ORGANIZATION. 3 credits

PCL 630—INDIVIDUAL WORK. 3 credits

PCL 631—SEMINAR IN LATIN-AMERICAN GOVERNMENT AND POLITICS. 3 credits

PCL 632—SEMINAR IN LATIN-AMERICAN GOVERNMENT AND POLITICS. 3 credits

PCL 633—SEMINAR IN PROBLEMS OF AMERICAN FEDERAL GOVERNMENT. 3 credits

PCL 634—SEMINAR IN STATE AND LOCAL GOVERNMENT. 3 credits

PCL 635—SEMINAR IN POLITICAL THEORY. 3 credits

PCL 636—SEMINAR IN POLITICAL THEORY. 3 credits

PCL 637—SEMINAR IN COMPARATIVE GOVERNMENT. 3 credits

PCL 638—SEMINAR IN COMPARATIVE GOVERNMENT. 3 credits

PCL 639—SEMINAR IN PUBLIC LAW. 3 credits

PCL 640—SEMINAR IN PUBLIC LAW. 3 credits

PCL 641—HISTORY OF AMERICAN POLITICAL THEORY. 3 credits

PCL 642—RUSSIAN GOVERNMENT. 3 credits

PCL 643—SEMINAR IN INTERNATIONAL LAW. 3 credits

PCL 644—SEMINAR IN INTERNATIONAL LAW. 3 credits

PCL 645—SEMINAR IN POLITICAL PARTIES. 3 credits

PCL 646—LATIN-AMERICAN POLITICAL THEORY. 3 credits

PCL 647—SEMINAR IN POLITICAL BEHAVIOR. 3 credits

PCL 650—GOVERNMENT AND THE PLANNING PROCESS. 3 credits

PCL 660—SECURITY AND DEFENSE POLICIES SEMINAR I. 3 credits

PCL 661—SECURITY AND DEFENSE POLICIES SEMINAR II. 3 credits

PCL 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

PCL 799—DOCTORAL DISSERTATION. 1 to 12 credits

Poultry Husbandry

INSTRUCTIONAL STAFF 1960-61

Mehrhof, N. R., Head; Cook, R. E.; Harms, R. H.; Tarver, Fred R. Jr., (on leave)

PY 201—FUNDAMENTALS IN POULTRY PRODUCTION. 3 credits
Offered 1. Economic importance of the industry; breeds and varieties; principles of production and exhibition judging; location and construction of buildings; breeding; hatching; brooding; rearing pullets; managing layers; feeding; marketing diseases. One or more field trips to commercial poultry farms required.

PY 312—INCUBATION, BROODING AND REARING. 3 credits
Offered 2 in alternate years. Not offered in 1962-63. A study of the embryology of the chick; different types of hatchery equipment; incubation principles and practices; brooding equipment; methods of brooding chicks; rearing pullets; and caponizing. Chick sexing and judging. One or more field trips to hatcheries, broiler plants and poultry farms required.

PY 317—MARKETING POULTRY PRODUCTS. 3 credits
Offered 1 in alternate years. Not offered in 1962-63. Preparation of eggs and poultry for market; grading, packing, storing of eggs and poultry; study of eggs and meat quality, judging eggs. One or more field trips to poultry markets required.

PY 319—GRADING AND SELECTING POULTRY AND POULTRY PRODUCTS. 1 credit
Offered 2. Study of classification and points of excellence. Judging poultry for egg production and exhibition. Grading and selecting poultry meat and eggs.

PY 414—POULTRY NUTRITION. 2 credits
Offered 2 in alternate years. Not offered in 1961-62. Prerequisite: AL 312. Nutritive requirements. Ration calculation, feed formulation, economics, and systems of feeding poultry.

PY 415—POULTRY MANAGEMENT. 3 credits
Offered 1 in alternate years. Not offered in 1961-62. Prerequisite: PY 201 or 3 hours in any other poultry husbandry course. Systematic study of poultry farming; types, farm layouts, successful poultry farms, investments, costs and returns in egg production, and factors relating to costs and returns in egg production. Pullet production, layout of pullet ranges, costs and returns in rearing pullets, and factors affecting costs. One or more field trips to commercial poultry farms.

PY 416—POULTRY MANAGEMENT. 3 credits
Offered 2 in alternate years. Not offered in 1962-63. Prerequisite: PY 201 or 3 hours in any other poultry husbandry course. Hatchery management; location, plans, investment, costs and returns in producing chicks, factors affecting costs and returns. Broiler production: Equipment and designs of broiler plants, management of broilers, investment, costs and returns in producing broilers, and factors affecting costs and returns. One or more field trips to hatcheries, broiler plants and commercial poultry farms.

PY 421—SEMINAR. 1 credit
Offered 1, 2. May be repeated for maximum of 2 credits. Selected readings, reports and discussions of current developments in the field of poultry husbandry.

PY 427—POULTRY BREEDING. 2 credits
Offered 1 in alternate years. Not offered in 1962-63. Principles of genetics applied to poultry; the laws of heredity governing standard and production characters in poultry. Methods and practices of breeding and analysis of records. One or more trips to poultry breeding farms required.

PY 429—PROBLEMS IN POULTRY PRODUCTION. 1 to 4 credits per semester
Maximum 8 credits
Offered 1 & 2. Prerequisite: Permission of instructor. Qualified students may choose a topic or problem for study. Problems that may be selected are housing and equipment, feeding, breeding, physiology, marketing, and management. Type and scope of work determine credits allowed.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

GRADUATE COURSES

PY 614—ADVANCED POULTRY NUTRITION. 1 to 4 credits

PY 617—PROBLEMS IN EGG AND POULTRY MEAT TECHNOLOGY. 1 to 4 credits

PY 627—ADVANCED POULTRY BREEDING. 1 to 4 credits

PY 631—ADVANCED POULTRY MANAGEMENT. 3 credits

PY 646—TOPICS IN GENETICS. 1 to 3 credits per semester. Maximum 9 credits

PY 670—ADVANCED PROBLEMS IN POULTRY PRODUCTION. Variable Credit. Maximum 12 credits

PY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

Psychology

INSTRUCTIONAL STAFF 1960-61

Webb, W. B., Head; Anderson R. J.; Barger, B.; Barrett, A. M.; Brown, J. S.; Bunnell, B. N.; Dawson, J. G.; Dixon, J. C.; Gross, P.; Hinckley, E. D.; Harlow, J. E.; Horne. E. P.; Jourard, S. M.; Kimmel, H. D.; King, F. A.; Kolarik, J. M.; Kurtz, A. K.; McQuitty, J. V.; Rethlingshafer, D.; Robertson, M. H.; Schumacher, A.; Shaw, M. E.; Waters, R. H.; Wimberly, S. E.

An undergraduate major must include PSY 201, 311, and 301. If graduate work in Psychology is planned both PSY 301 and 302 should be taken.

PSY 200—(Identical with SY 200)—ELEMENTS OF BEHAVIORAL SCIENCE. 3 hours. 3 credits.
Offered 1, 2. Not available to those having credit in either PSY 201 or SY 201. The findings of contemporary psychology and sociology are presented to provide a background for understanding individual behavior and the social forces acting on individuals.

PSY 201—GENERAL PSYCHOLOGY—3 credits
Offered 1, 2. The general topics in the field of psychology. Designed to provide an understanding of human behavior, approached as a natural phenomenon subject to scientific study. The unifying concept is the adaptation of the individual to his physical and social environment.

PSY 202—PERSONALITY DEVELOPMENT. 3 credits
Offered 1, 2. The mechanisms of personality formation, with special emphasis upon the varieties of human adjustment. The more inevitable problems of human life with their normal and abnormal solutions. The origin and modification of behavior. Processes of motivation and adjustment. Development of personality traits. Techniques of mental hygiene.

PSY 206—PSYCHOLOGY APPLIED TO BUSINESS. 3 credits
Offered 1, 2. Not available for major credit in the College of Arts and Sciences. The principles of general psychology applied to marketing and advertising, personnel supervision and public relations. Emphasis will be placed on the study of human motivation. Motivation research.

PSY 301—EXPERIMENTAL PSYCHOLOGY. 3 credits
Offered 1, 2. Prerequisite: PSY 201, 311. The basic principles of scientific experimentation. Psychophysical methods, counter-balancing, introduction to research design, random groups and matched groups experiments.

PSY 302—EXPERIMENTAL PSYCHOLOGY. 3 credits
Offered 2. Prerequisite: PSY 201, 311, 301. Experimental studies of sensory and perceptual processes, human and animal learning, motivation and emotion.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PSY 305—(Identical with SY 305)—SOCIETY AND THE INDIVIDUAL. 3 credits
Offered 2. Prerequisite: PSY 201 or SY 201. The individual in the social structure. The individual as the agent of social change. The role of the individual in cultural transmission, diffusion and invention.

PSY 306—SOCIAL PSYCHOLOGY. 3 credits
Offered 1, 2. Prerequisite: PSY 201. A study of the social factors influencing individual behavior. Consideration of socialization, social influence and conformity, social interaction, decision-making, attitudes and opinions, and related topics. Graduate students will be given an opportunity to pursue intensively topics related to their major field. (Not open to graduate students in psychology.)

PSY 308—DEVELOPMENTAL PSYCHOLOGY. 3 credits
Offered 2. Prerequisite: PSY 201. An interpretation of research relating to the development of behavior. Consideration of human development is emphasized and augmented by the study of phylogenetic sequences.

PSY 311—INTRODUCTORY PSYCHOLOGICAL STATISTICS. 3 credits
Offered 1, 2. Prerequisite: PSY 201. Introductory treatment of quantitative methods in psychology. Nature of measurement, interpretation of scores, collection and treatment of data, experimental inference, correlation, prediction.

PSY 312—PSYCHOLOGY OF EXCEPTIONAL CHILDREN. 3 credits
Offered 2. Prerequisite: PSY 201. Individual differences, intelligence, feeble-mindedness, dull and neurological disorders, conduct problems, social and emotional maladjustments, and backward children, superior and gifted children, speech and motor defects, sensory and other topics concerning exceptional and mentally peculiar children.

PSY 324—THE HUMAN SENSES. 3 credits
Offered 1. Prerequisite: PSY 201. An introductory survey of the knowledge of human senses and their place in perception.

PSY 410—ABNORMAL PSYCHOLOGY. 3 credits
Offered 1, 2. Prerequisites: PSY 201, 202. The principal abnormal phases of behavior, and the ways by means of which the individual develops abnormal habits of thinking and acting. A survey of the signs of beginning maladjustment and procedures which may be followed to correct these tendencies. Special attention is given to the prevention and treatment of mental disease.

PSY 421—AN INTRODUCTION TO LEARNING. 3 credits
Offered 2. Prerequisite: PSY 201. An introductory survey of the significant concepts, experimental methods, and principles of human learning and forgetting.

PSY 430—INDIVIDUAL WORK. 3 credits
Offered 1, 2. Prerequisites: At least fifteen hours of psychology including PSY 201, 301, 302, and permission of the Head of the Department. Qualified students and the instructor concerned may choose a particular problem for investigation or study from the various areas of experimental psychology. A formal written report of the work is required of the student.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

PSY 501—ADVANCED GENERAL PSYCHOLOGY. 3 credits
Offered 1, 3. Prerequisite: 12 hours of psychology. Available for graduate major credit. An integrative and systematic consideration of the major concepts of general psychology: Behavioral development, sensory and perceptual processes, motivation, emotion, learning, forgetting, transfer, the higher mental processes of thinking and problem solving, together with the historical sources and methodological techniques for the experimental analysis of these topics.

PSY 503—ESSENTIALS OF PSYCHOLOGICAL TESTING. 3 credits
Offered 1. Prerequisite: PSY 311. Available for graduate major credit. Principles and methods of assessing behavior by means of tests. Laboratory practice in administration and interpretation of tests.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PSY 504—PSYCHOMETRIC METHODS. 3 credits
Offered 2. Prerequisite PSY 311. Procedures for quantification of psychological variables by psychophysical and other scaling techniques are considered. Emphasis is placed on the use of judgmental data in psychological research.

PSY 509—THEORIES OF PERSONALITY. 3 credits
Offered 1. Prerequisite: PSY 410. Available for graduate major credit. Basic concepts and findings, techniques of investigation, and survey of contemporary theories of personality.

PSY 512—INDIVIDUAL AND GROUP DIFFERENCES. 3 credits
Offered 1. Prerequisites: PSY 201, 311. Available for graduate major credit. An intensive study of individual and group differences essential to the evaluation of test results and vocational/educational adjustment. The influence of differences in intelligence, age, sex, and ethnic and cultural background on behavior.

PSY 514—HISTORY OF PSYCHOLOGY. 3 credits
Offered 2. Prerequisite: 12 hours of psychology. Available for graduate major credit. A survey of the history of psychology from the time of the Greeks to the present, covering its background in philosophy, the emergence of psychology as a modern, experimental science, and the contributions of movements such as structuralism, functionalism, behaviorism, and Gestalt psychology.

PSY 516—PHYSIOLOGICAL PSYCHOLOGY. 3 credits
Offered 2. Prerequisites: PSY 301. Available for graduate major credit. The relation of psychological phenomena to the physiology of the nervous system. Laboratory training in experimental techniques, including operative procedures, electrical recording of nervous system activity, self-stimulation.

PSY 525—MOTIVATION. 3 credits
Offered 1. Prerequisite: 6 hours of Psychology. A development of the varying problems in the field of motivation as approached in the different areas of psychology.

GRADUATE COURSES

PSY 601—SEMINAR: LITERATURE IN EXPERIMENTAL PSYCHOLOGY. 3 credits

PSY 602—SEMINAR: PSYCHOLOGICAL THEORY. 3 credits

PSY 603—STATISTICAL METHODS: INFERENCE. 3 credits

PSY 604—STATISTICAL METHODS: CORRELATION. 3 credits

PSY 610—SEMINAR: PSYCHOPATHOLOGY. 3 credits

PSY 611—INTRODUCTION TO PROFESSIONAL PSYCHOLOGY. 3 credits

PSY 613—CHILDREN'S BEHAVIOR DISTURBANCES. 3 credits

PSY 614—VOCATIONAL APPRAISAL. 3 credits

PSY 615—SURVEY OF SOCIAL PSYCHOLOGY. 3 credits

PSY 616—SEMINAR: SOCIAL PSYCHOLOGY. 3 credits

PSY 617—LABORATORY IN SOCIAL PSYCHOLOGY. 3 credits

PSY 619—ADVANCED EXPERIMENTAL PSYCHOLOGY. 3 credits

PSY 620—ADVANCED EXPERIMENTAL PSYCHOLOGY. 3 credits

PSY 621—SEMINAR: LEARNING. 3 credits

PSY 624—SEMINAR: PERCEPTION. 3 credits

PSY 626—SEMINAR: EXPERIMENTAL DESIGN. 3 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

PSY 630—INDIVIDUAL WORK. 3 credits

PSY 632—TEST CONSTRUCTION. 3 credits

PSY 637—PERSONAL COUNSELING. 3 credits

PSY 641—PERSONALITY ASSESSMENT: BASIC PROCEDURES. 3 credits

PSY 642—PERSONALITY ASSESSMENT: ADVANCED PROCEDURES. 3 credits

PSY 651—PRACTICUM IN PROFESSIONAL PSYCHOLOGY. 4 credits. Maximum 16 credits.

PSY 669—SEMINAR: MOTIVATION. 3 credits

PSY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

PSY 714—CONTEMPORARY SYSTEMS IN PSYCHOLOGY. 3 credits

PSY 729—DYNAMICS OF INDIVIDUAL BEHAVIOR. 3 credits

PSY 734—SEMINAR: CURRENT CLINICAL LITERATURE. 3 credits

PSY 735—PROBLEMS IN PSYCHOLOGICAL TREATMENT. 3 credits

PSY 743—INTRODUCTION TO THE RORSCHACH TEST: 3 credits

PSY 755—INTERNSHIP. 3 credits

PSY 799—DOCTORAL DISSERTATION. 1 to 12 credit

Real Estate

INSTRUCTIONAL STAFF 1960-61

Ring, A. A., Head; Curtis, C. C.; Kalkman, R. H.; McGough, B. C.

Courses numbered 300 or higher are open only to students with junior standing or above. Courses numbered below 300 are not open to students with 4BA classification. Note, however, the specific prerequisites for certain courses.

*RE 295—HOUSING AND HOME OWNERSHIP. 3 credits
Offered 1, 2, 3. Concerned with the consumption of real estate and the principles and practices of home ownership, home construction and design. When, where, and how to buy a home.

RE 381—REAL ESTATE FUNDAMENTALS. 3 credits
Offered 1, 2, 3. Principles and practices concerning legal, economic and technical aspects of real property ownership and market operations.

RE 390—PROPERTY VALUATION. 3 credits
Offered 1, 2. A study of social, economic and governmental forces influencing property value. Analysis of principles and practices essential to measurement of value.

RE 392—REAL ESTATE BROKERAGE AND MANAGEMENT POLICIES AND PRACTICES. 3 credits
Offered 1, 2. Organization and conduct of real estate brokerage and managerial business and professional activities. Social, economic, legal and, ethical responsibilities of the real estate broker and real property manager.

RE 393—URBAN LAND UTILIZATION. 3 credits
Offered 1, 2. Land and population; economics of land utilization; urbanization and urban lands, manufacturing as an urbanizing factor; labor as a factor; transportation and commerce in city location and urbanization.

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*Not open to Business Administration students who register for or have completed RE 381 Real Estate Fundamentals.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

RE 490—REAL ESTATE APPRAISING. 3 credits
Offered 1, 2. Prerequisite: RE 390. Designed to train students in the technique and art of real estate appraising. Application of case studies of valuation procedures via the cost, market, and income approach to real estate value.

RE 492—REAL ESTATE FINANCE. 3 credits
Offered 1, 2. Functions of real estate finances; the loan contract; the mortgage market; elements of mortgage risk; loan policy and administration of loans; analysis of current mortgage market conditions.

RE 595—INDUSTRIAL REAL ESTATE PRINCIPLES AND PROBLEMS. 3 credits
Offered 1. A principle and case study course concerned with economic, financial, managerial and marketing aspects of industrial planning and land utilization.

GRADUATE COURSES

RE 690—PROBLEMS IN PROPERTY VALUATION. 3 credits

RE 692—URBAN GROWTH AND LAND USE PATTERNS. 3 credits

RE 693—RESEARCH IN REAL ESTATE BROKERAGE AND MANAGEMENT. 3 credits

RE 695—PROBLEMS IN REAL ESTATE FINANCE. 3 credits

RE 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

Rehabilitation Counseling

INSTRUCTIONAL STAFF 1960-61

Thomason, B.; Head; Barrett, A. M.

GRADUATE COURSES

RC 640—AN INTRODUCTION TO REHABILITATION COUNSELING. 3 credits

RC 641—PSYCHOLOGICAL AND SOCIOLOGICAL ASPECTS OF REHABILITATION COUNSELING. 3 credits

RC 642—VOCATIONAL TRAINING AND PLACEMENT ASPECTS OF REHABILITATION COUNSELING. 3 credits

RC 643—MEDICAL AND RELATED ASPECTS OF REHABILITATION COUNSELING. 3 credits

RC 644—INTERNSHIP IN REHABILITATION COUNSELING. 6 credits

Religion

INSTRUCTIONAL STAFF 1960-61

Scudder, D. L., Head; Creel, A. B.; Nakamura, H.

An undergraduate major or graduate minor should be worked out with the Department of Religion. As a rule, the pre-ministerial student should elect no more than twelve hours in Religion in order that he may obtain a broad background in the sciences and humanities.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

RN 241—INTRODUCTION TO RELIGION. 3 credits
Offered 1. An attempt to discover what religion is and does. Religion as a social pattern, a venture of faith, and an orientation to life as a whole.

RN 242—SURVEY OF WESTERN RELIGION. 3 credits
Offered 2. A study of the religious ideas of western civilization. The ancient, medieval and modern contribution to current religious thinking and practice.

RN 243—RELIGION IN AMERICAN LIFE. 2 credits
Offered 1, 2. A presentation of the historical development of beliefs and practices of religious groups in the United States.

RN 251—COMPARATIVE RELIGION. 3 credits
Offered 1, 2. The religions of India, China, Japan, the Near East and Europe are compared along general lines. An investigation of Hinduism, Buddhism, Taoism, Confucianism. Shintoism, Mohammedanism, Judaism, and Christianity.

RN 252—COMPARATIVE RELIGION. 3 credits
Offered 1, 2. The second half of the course RN 251-252.

RN 341—THE OLD TESTAMENT IN THE LIGHT OF TODAY. 3 credits
Offered 1. An inquiry into the literature and history of the Hebrews as reflected in the Bible.

RN 342—THE CAREER AND SIGNIFICANCE OF JESUS. 3 credits
Offered 1, 2. A study of the life of the historical Jesus based upon the comparative texts of the first three gospels and recent Biblical scholarship. A continuation of RN 341.

RN 343—THE LIFE AND WORK OF ST. PAUL. 3 credits
Offered 2. Emphasis is placed upon the epistles of Paul, the Book of Acts, and the Johannine writings. Rival philosophies and religions are compared with beliefs of the New Testament authors.

RN 401—ADVANCED COMPARATIVE RELIGION. 3 credits
A study of the Bhagavad-Gita, the Dhammapada, the Gospel of John, the Tao Teh King and the Prophecy of Isaiah.

RN 403—THE SOCIAL TEACHING OF CHRISTIAN CHURCHES. 3 credits
An investigation of attempts to apply the Christian Ideal of life to the problems of war and peace, state and church, capital and labor, marriage and the family, minorities and the under-privileged.

RN 405—THE PROBLEMS OF RELIGIOUS PHILOSOPHY. 3 credits
An examination of the problems of man, God, evil, freedom, values and immortality. Attention is given to the relations of common sense, science, philosophy and religion.

RN 430—INDIVIDUAL WORK. 3 credits
Offered 1, 2. Prerequisite: 12 hours of Upper Division Humanities. A tutorial program designed to assist the student in writing a comprehensive essay on a topic which involves the correlation of religion with other areas of knowledge.

RN 450—RELIGIOUS INTERPRETATIONS OF HISTORY. 3 credits
Prerequisite: 12 hours of Upper Division Humanities including History. Recent views of Northrup, Toynbee, Sorokin, and Niebuhr analyzed in the light of Asiatic and other Western conceptions.

Russian

INSTRUCTIONAL STAFF 1960-61

Brunet, J., Head; Hubert, M.; Petru, G.

The undergraduate major must include RSN 102, RSN 103, RSN 530-composition, six hours, and RSN 530-literature, six hours. In addition, it must also include as a subsidiary requirement FLE 351, FLE 352 and six semester hours of one or more foreign languages other than the major.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

RSN 101—MODERN RUSSION LITERATURE IN TRANSLATION. 2 credits
Offered 2. No knowledge of Russian required. Survey of the principal movements in Russian literature in the 19th and 20th Centuries, up to 1917.

RSN 102—THE RUSSIAN NOVEL IN THE 19TH CENTURY. 2 credits
Offered 2. Representative works of Pushkin, Gogol, Goncharov, Turgenev, Tolstoy and Dostoevsky. No knowledge of Russian required. Students who have studied Russian are, however, required to do substantial reading in Russian.

RSN 103—MASTERPIECES OF RUSSIAN DRAMA THROUGH GORKY. 2 credits
Offered 2. No prerequisite, except, in the case of students of Russian, permission of the department head. Lectures, readings, and reports. Knowledge of Russian not necessary. Students of Russian are, however, required to do substantial reading in Russian.

RSN 133—FIRST-YEAR RUSSIAN. 3 credits
Offered 1

RSN 134—FIRST-YEAR RUSSIAN. 3 credits
Offered 2. Prerequisite: RSN 133, or the equivalent. Conducted in Russian.

RSN 201—SECOND-YEAR RUSSIAN. 3 credits
Offered 1. Prerequisite: RSN 134, or the equivalent. Conducted in Russian.

RSN 202—SECOND-YEAR RUSSIAN. 3 credits
Offered 2. Prerequisite: RSN 201, or the equivalent. Conducted in Russian.

RSN 530—INDIVIDUAL WORK. 3 credits
Offered 1, 2. Prerequisites: 12 hours of college Russian or the equivalent, and permission of the head of the department. Topics for which there are no special course offerings. With change of content, may be elected for additional credit.

School Art

See also courses in Elementary Education

INSTRUCTIONAL STAFF 1960-61

Hilliard, P. Head; Berg, C.; Bodnar, P.; Farris, M. L.

SCA 253—ART EDUCATION, I. 3 credits
Offered 1, 2. Exploration of art materials. Emphasis upon the role of art in developing creative expression. Study of children's art. Laboratory, lecture, visual aids, and class discussion. Satisfies requirements for certification in the Elementary School course, Area V.

SCA 301—ART EDUCATION, II. 3 credits
Offered 2, 3. Prerequisite: SCA 253 or consent of instructor. Primarily for undergraduates. Laboratory experiences with a variety of art materials suitable for grades 1-12. Emphasis on design.

SCA 333—ART FOR ELEMENTARY TEACHERS, I. 3 credits
Offered 1, 2, 3. Not open to students who have taken SCA 253. For in-service teachers. A study of art expression based on an understanding of child development. Laboratory, lecture, visual aids, class discussion, and individual projects.

SCA 334—ART FOR ELEMENTARY TEACHERS, II. 3 credits
Offered 3. Prerequisite SCA 333 or SCA 253 and consent of instructor. For in-service teachers. Laboratory experiences with materials. Emphasis upon ways of developing art experiences with children. Individual and group projects.

SCA 353—ART EDUCATION WORKSHOP. 3 credits
Offered 1. Open to Art education majors and art students only. Through selected projects students experience and evaluate the use of art materials and tools appropriate for elementary and secondary school students.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

SCA 453—THE TEACHING OF ART. 3 credits
Offered 2. Open to Art education majors only. Teaching techniques and program planning in art—K-12. Individual and group projects with materials.

Social Studies

See also courses in Elementary Education

INSTRUCTIONAL STAFF 1960-61

Hilliard, P., Head; Ambrose, E.; Tison, J. P.

SCL 301—SOCIAL STUDIES IN THE ELEMENTARY SCHOOL. 3 credits
Offered 1, 2, 3. Satisfies the requirement for certification in the Elementary School Course, Area III. Overview of the social studies program in the elementary school. Exploration of the role of social studies and of other opportunities in the school curriculum for developing needed social learnings. Study of methods and materials.

SCL 302—SOCIAL STUDIES IN THE ELEMENTARY SCHOOL. 3 credits
Offered 2. This course satisfies the certification requirement in the Elementary School Course, Area III. Examination of content in the social studies field needed for the instruction of elementary children. Relationship of content in the social studies and the objectives of the elementary school. Recommended for undergraduate students only.

Sociology

INSTRUCTIONAL STAFF 1960-61

Grigsby, S. E., Head; Albrecht, R. E.; Atchley, M. H.; Brown, J. C.; Ehrmann, W. W.; Fritz, C. E.; Goggin, J. M.; Linden, L. L.; Massey, W. C.; Nelson, L.; Robbins, C. L.; Smith, T. L.

All Sociology majors are ordinarily required to take SY 201, SY 301, SY 541, SY 547 and/or SY 551. SY 547 and SY 551 are recommended for those who intend to take graduate work in Sociology, and for graduate minors in Sociology.
In addition to the above all Sociology majors in the social welfare area are required to take SY 316 and SY 317.

All undergraduates who are considering Sociology as a major should contact the departmental academic adviser soon after enrollment in the University.

SY 200 (Identical with PSY 200)—ELEMENTS OF BEHAVIORAL SCIENCE. 3 credits.
Offered 1, 2. Not available to those having credit in either PSY 201 or SY 201. The findings of contemporary psychology and sociology are presented to provide a background for understanding individual behavior and the social forces acting on individuals.

SY 201—SOCIOLOGICAL FOUNDATIONS OF MODERN LIFE. 3 credits
Offered 1, 2. Prerequisite: C-11 or equivalent. The social institutions of American life today in relation to population changes, ethnic groups, and technological change.

SY 202—PROBLEMS OF AMERICAN SOCIETY. 3 credits
Offered 1. Prerequisite: SY 201. Major problems of individuals, families, and the communities. Social forces tending to disorganize basic groups. Remedial programs.

SY 244—MARRIAGE AND THE FAMILY. 3 credits
Offered 1, 2. Prerequisite: C-11 or equivalent. Forms of marriage and the family. Sex differentiations, sex education, legal and social factors affecting marital adjustment.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

SY 301—SOCIOLOGICAL MEASUREMENTS. 3 credits
Offered 2. Prerequisite: SY 201. A survey of sociological and anthropological measurements. Current trends in sociological and anthropological measurements and in research techniques.

SY 305 (Identical with PSY 305)—SOCIETY AND THE INDIVIDUAL. 3 credits
Offered 2. Prerequisite: PSY 201 or SY 201. The individual in the social structure. The individual as the agent of social change. The role of the individual in cultural transmission, diffusion and invention.

SY 316—THE FIELD OF SOCIAL WORK. 3 credits
Offered 1. Prerequisite: SY 201. Factors influencing the growth and development of social work. Application of sociological principles to social work activities. Field visits to welfare agencies.

SY 317—METHODS IN SOCIAL WORK. 3 credits
Offered 2. Prerequisite: SY 316 or permission of instructor. Methods relating to social case work, social group work, social administration, and social research. Supervised field work.

SY 321—RURAL SOCIOLOGY. 3 credits
Offered 1. Prerequisite: SY 201. American rural life in the changing regions. Trends in rural social resources and problems in the United States, the Southeast, Florida.

SY 322—THE CHILD IN AMERICAN SOCIETY. 3 credits
Offered 1. Prerequisite: SY 201. Cultural factors affecting social adjustment of youth with emphasis on normal youth, foster home care, guardianship, adoptions, and institutional programs.

SY 326—URBAN SOCIOLOGY. 3 credits
Offered 2. Prerequisite: SY 201 or GPY 204. The dominance of the city in American life and its social institutions. Sociological problems and principles involved in city planning.

SY 343—MINORITY GROUPS. 3 credits
Offered 2. Prerequisite: SY 201. The major aspects of minority group problems in the United States. The sociological analysis of the structure, culture, and social processes of ethnic, religious and racial groups in America.

SY 344—FAMILY RELATIONSHIPS. 3 credits
Prerequisites: SY 201 or PSY 201. Family structure, function and relationships. Social-cultural differences in family behavior. Comparison of roles and values of various cultures.

SY 348—COMMUNITY ORGANIZATION. 3 credits
Offered 2. Prerequisite: SY 201. A study of community structures, activities, problems and resources. Special attention will be devoted to the problems of community organization in Florida.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

SY 525—JUVENILE DELINQUENCY. 3 credits
Offered 1. Prerequisite: 6 hours of sociology, including SY 201. Factors of causation and methods of treatment and prevention.

SY 530—INDIVIDUAL WORK. 3 credits
Offered 1, 2. Prerequisite: 12 hours of sociology, including SY 201. Available for graduate major credit. Designed to permit advanced students to do work in subjects not available in currently offered courses.

SY 541—HISTORY OF SOCIOLOGICAL THOUGHT. 3 credits
Prerequisite: 6 hours of sociology, including SY 201. Available for graduate major credit. The development of sociological thought in ancient, medieval and the early modern period.

SY 543—COLLECTIVE BEHAVIOR. 2 credits
Prerequisite: SY 201. Available for graduate major credit. The study of the formation of informal and transitory grouping, types of crowds, and the relationship of social movements to the total social order.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

SY 545—THE AMERICAN FAMILY. 3 credits
Offered 2. Prerequisite: 6 hours of sociology, including SY 201. Available for graduate major credit. The cultural configuration of the American family. Basic relationships will be examined in terms of theoretical, historical, and clinical considerations.

SY 546—CRIMINOLOGY. 3 credits
Offered 2. Prerequisite: SY 201. Nature and causes of crime. Punishment, treatment, prevention of criminality. Sociological aspects of criminal law and procedure.

SY 547—SOCIAL RESEARCH AND INVESTIGATION. 3 credits
Offered 2. Prerequisite: 6 hours of sociology, including SY 201. Available for graduate major credit. Current methods of research in sociology. Trends in methodology and research interests here and abroad. Historical development of research methods.

SY 550—POPULATION AND PUBLIC AFFAIRS. 3 credits
Offered 1. Prerequisite: 6 hours of sociology, including SY 201. Available for graduate major credit. Population characteristics in the modern world. The problems created by recent rapid population changes. Methods of studying population trends and situations.

SY 551—COMPARATIVE SOCIOLOGY. 3 credits
Offered 2. Prerequisites: SY 201 and SY 541, or equivalent. Available for graduate major credit. Twentieth century sociology in Europe and in the Americas, with intensive study of one or more major systematic sociologists.

SY 555—INDUSTRIAL SOCIOLOGY. 3 credits
Prerequisites: SY 201 or BS 473 plus any one of the following: PSY 206, ES 210, ES 372, BS 373, BS 472 or SY 326. Available for graduate major credit. A study of human relations in industry from the standpoint of the sociological factors involved; the development, characteristics and implied assumptions of modern industrial society.

SY 556—SOCIAL FACTORS IN HEALTH AND ILLNESS. 3 credits
Offered 2. Prerequisite: 9 hours in sociology including SY 201. Available for graduate mayor credit. Effects of group characteristics in the causation, amelioration, and prevention of mental and physical illness and social influences in medical education, medical practice, and hospital administration.

SY 564—PEOPLES, CULTURES AND SOCIAL INSTITUTIONS OF SPANISH AMERICA. 3 credits
Offered 1. Prerequisite: 6 hours of sociology, including SY 201. Available for graduate major credit. A general survey of the peoples, cultures, and societies of contemporary Spanish America.

SY 565—PEOPLES, CULTURES, AND SOCIAL INSTITUTIONS OF BRAZIL. 3 credits
Offered 2. Prerequisite: 6 hours of sociology, including SY 201. Available for graduate major credit. A general survey of the peoples, culture, and society in contemporary Brazil.

SY 590—THE SOUTH TODAY. 3 credits
Offered 2. Prerequisite: 6 hours of sociology, including SY 201. Available for graduate major credit. Social resources in the Southeast. Variant patterns, population pressures and trends; the major problems, programs and plans for the region.

SY 591—MASTERPIECES IN THE SOCIAL SCIENCES. (Identical with HY 591, ES 591, and PCL 591). 3 credits
Offered 1. Prerequisites: Senior standing and a major in one of the social sciences. Available for graduate major credit. For advanced students with background work in the social sciences who have approval of their major adviser and the course chairman. Reading of classics in economics, history, political science, sociology, and cultural anthropology.

GRADUATE COURSES

SY 619—ADVANCED STUDY OF RURAL SOCIETY. 3 credits

SY 621—THE SOCIOLOGY OF THE AGED. 3 credits

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

SY 625—SEMINAR IN THE STUDY OF MARRIAGE AND THE FAMILY. 3 credits

SY 630—INDIVIDUAL WORK. 3 credits

SY 631—THE DEVELOPMENT OF SOCIAL THOUGHT. 3 credits

SY 646—SEMINAR IN POPULATION. 3 credits

SY 654—SEMINAR IN SPANISH-AMERICAN CULTURES. 3 credits

SY 655—SEMINAR IN BRAZILIAN CULTURE. 3 credits

SY 670—SOCIAL RESEARCH METHODS. 3 credits

SY 675—SEMINAR ON GROUP ADAPTATION TO CRISIS AND STRESS. 3 credits

SY 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

SY 799—DOCTORAL DISSERTATION. 1 to 12 credits

Soils

INSTRUCTIONAL STAFF 1960-61

Smith, F. B., Head; Blue, W. G.; Breland, H. L.; Caldwell, R. E.; Edson, S. N.; Eno, C. F.; Fiskell, J. G. A.; Gammon, N., Jr.; Hammond, L. C.; Neller, J. R.; Popenoe, H. L.; Pritchett, W. L.; Robertson, W. K.; Rothwell, D. F.; Spinks, D. O.; Thornton, G. D.; Volk, G. M.

SLS 300—FOREST SOILS. 3 credits
Offered 1. Prerequisite: CY 215. Open only to forestry students. The nature and properties of forest soils. The fundamentals of soil science with applications of the science of forestry.

SLS 310—SOILS. 4 credits
Offered 1, 2, 3. Prerequisite: CY 215. The nature and properties of soils. The fundamentals of soil science including formation and the physical, chemical and biological factors affecting soil fertility.

SLS 311—SOIL MANAGEMENT. 2 credits
Offered 1, 2, 3. Prerequisite: SLS 310. Application of general principles of soil fertility to Florida soil conditions. Soil management practices necessary to maintain economic crop production, including liming, fertilization, crop rotation and green manuring.

SLS 400—TROPICAL SOIL MANAGEMENT. 3 credits
Offered 1. Prerequisite SLS 310. The nature and properties of tropical soils and their environment. Soil management practices in relation to land capability and technological resources for increased crop production.

SLS 401—SOIL MORPHOLOGY AND CLASSIFICATION. 3 credits
Offered 1. Prerequisite: SLS 310. Soil genesis, morphology and classification of the important soils of Florida and of the United States in relation to their proper management as land surface units.

SLS 402—ADVANCED SOIL FERTILITY. 3 credits
Offered 1, 2. Prerequisites: SLS 310 and CY 218. Desirable prerequisite: CY 331. The fundamental relationships of soil factors affecting plant growth, including water and air supply, microbial activity and organic matter, soil colloids, cation exchange, acidity and liming, and supply of plant nutrients.

SLS 404—SOIL SURVEYING. 4 credits
Offered 2. Prerequisite: SLS 310. Methods of the soil survey, soil maps and survey reports. Sampling the soil profile and studying soil type characteristics. Detailed survey and mapping of an assigned area. Comprehensive study of Florida's soils.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

SLS 405—SOIL MICROBIOLOGY. 3 credits
Offered 1. Prerequisites or corequisites: SLS 310 and BCY 300. Occurrence and activities of soil microorganisms and their influence on soil fertility.

SLS 406—SOILS AND FERTILIZERS. 3 credits
Offered 1, 2. Prerequisite: SLS 310. The use of commercial fertilizers with reference to their effects on soils, methods of application and crop response. Manufacture and formulation of commercial fertilizers.

SLS 408—SOIL AND WATER CONSERVATION. (Identical with AG 408). 3 credits
Offered 2. Prerequisites: SLS 310, AG 301. Desirable corequisite: SLS 311. The social and economic aspects of soil deterioration. Principles involved in soil conservation, and methods of control as applied to Florida will be carefully developed. Given jointly with the Department of Agricultural Engineering.

SLS 420—SPECIAL PROBLEMS IN SOILS. 1 to 3 credits
Offered 1, 2. With permission of the instructor. Research problems in soils for qualified students in all departments of College of Agriculture.

GRADUATE COURSES

SLS 600—ADVANCED SOILS. 3 credits

SLS 601—ADVANCED SOIL MICROBIOLOGY. 3 credits

SLS 602—SOIL CHEMISTRY. 4 credits

SLS 603—SOIL PHYSICS. 3 credits

SLS 604—SOIL FERTILITY. 3 credits

SLS 605—LABORATORY METHODS OF SOIL FERTILITY INVESTIGATION. 1 to 3 credits

SLS 606—PREPARATION OF FERTILIZERS AND THEIR UTILIZATION. 2 credits

SLS 611—GENESIS, MORPHOLOGY AND CLASSIFICATION OF WORLD SOILS. 2 credits

SLS 650—CONFERENCE IN SOILS. 1 to 4 credits

SLS 670—NON-THESIS RESEARCH IN SOILS. Variable credit. Maximum 12 credits

SLS 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

SLS 799—DOCTORAL DISSERTATION. 1 to 12 credits

Spanish

INSTRUCTIONAL STAFF 1960-61

Brunet, J., Head; Allen, J. J.; Fernandez, P. V.; Fiore, S.; Hayes, F. C.; Lasley, M. M.; Ramirez, A.; Wershow, I. R.

The undergraduate major must include SH 305-306, SH 307-308 and SH 501-502, or the equivalent. In addition, it must also include, as a subsidiary requirement, FLE 351, FLE 352 and six semester hours of one or more foreign languages other than the major.

SH 133—FIRST-YEAR SPANISH. 3 credits
Offered 1, 2, 3.

SH 134—FIRST-YEAR SPANISH. 3 credits
Offered 1, 2, 3. Prerequisite: SH 133, or the equivalent.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

SH 201—SECOND-YEAR SPANISH. 3 credits
Offered 1, 2, 3. Prerequisite: SH 134, or the equivalent. Conducted in Spanish.

SH 202—SECOND YEAR SPANISH. 3 credits
Offered 1, 2, 3. Prerequisite: SH 201, or the equivalent. Conducted in Spanish.

SH 225—COMMERCIAL SPANISH. 3 credits
Prerequisite: SH 202, or the equivalent. Conducted in Spanish.

SH 305—COMPOSITION AND CONVERSATION. 3 credits
Offered 1. Prerequisite: SH 202, or the equivalent. Conducted in Spanish.

SH 306—COMPOSITION AND CONVERSATION. 3 credits
Offered 2. Prerequisite: SH 202, or the equivalent. Conducted in Spanish.

SH 307—INTRODUCTORY READINGS IN SPANISH LITERATURE AND CIVILIZATION. 3 credits
Offered 1. Prerequisite: SH 202, or the equivalent. Conducted in Spanish.

SH 308—INTRODUCTORY READINGS IN SPANISH LITERATURE AND CIVILIZATION. 3 credits
Offered 2. Prerequisite: SH 202, or the equivalent. Conducted in Spanish.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

SH 501—THE 19th CENTURY SPANISH NOVEL. 3 credits
Offered 1. Prerequisites: SH 305-306, and SH 307-308, or the equivalent. Conducted in Spanish. Available for graduate major credit.

SH 502—SPANISH DRAMA SINCE 1800. 3 credits
Offered 2. Prerequisites: SH 305-306, and SH 307-308, or the equivalent. Conducted in Spanish. Available for graduate major credit.

SH 599—SPECIAL STUDY IN SPANISH. 3 credits
Offered 1, 2, 3. Prerequisites: SH 305-306, and SH 307-308, or the equivalent. Available for graduate major credit. Topics for which there are no special course offerings. With change of content, may be elected for additional credit.

GRADUATE COURSES

SH 600—SPECIAL STUDY IN SPANISH LITERATURE. 3 credits

SH 601—SPANISH HISTORICAL GRAMMAR. 3 credits

SH 602—OLD SPANISH LITERATURE. 3 credits

SH 630—INDIVIDUAL WORK. 3 credits

SH 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

SH 799—DOCTORAL DISSERTATION. 1 to 12 credits

Speech

INSTRUCTIONAL STAFF 1960-61

Tew, R. E., Acting Head; Bragg, V. C.; Buck, M. W.; Bzoch, K. R.; Constans, H. P.; Ehninger, D. W.; Hale, L. L.; Jerit, R. G.; Keyworth, R. A.; Letchworth, J. S.; Leutenegger, R. R.; Mase, D. J.; Mohrmann, G. P.; Staub, A. W.; Taylor, M. J.; Thomas, C. K.; Williams, D. E.; Zimmerman, L. L.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

SCH 100—PARLIAMENTARY PROCEDURE. 1 credit
Offered 1, 2. Rules governing the proceedings of deliberative assemblies together with practice in their usage.

SCH 200—VOICE AND DICTION. 2 credits
Offered 1, 2. Effective voice production, clear articulation, acceptable pronunciation, and pleasing intonation; rhythm and phrasing. Group and individual needs are met.

SCH 201—EFFECTIVE SPEAKING. 3 credits
Offered 1, 2. Prerequisite: C-3. Designed to aid the student through demonstration and practice to speak effectively to a group.

SCH 210—THEATRE APPRECIATION. 2 credits
To develop an appreciation of the theatre through a study of the various aspects of dramatic production.

SCH 250—ACTING. 3 credits
Offered 1, 2. A study of acting from the aesthetic and practical viewpoints with emphasis on theories of acting and principles of stage make-up.

SCH 301—ADVANCED PUBLIC SPEAKING. 3 credits
Offered 1, 2. Prerequisite: SCH 201. Structure, style and delivery of speeches for formal occasions, with special emphasis on the psychology of audience persuasion.

SCH 303—ARGUMENTATION. 3 credits
Offered 1, 2. Prerequisite: SCH 201. Study of principles of argumentation as they are applied in oral discourse; analysis of controversial propositions, evidence, and modes of reasoning. Practice in preparation and delivery of speeches of advocacy.

SCH 307—INTERPRETATION OF LITERATURE. 3 credits
Offered 1, 2. Prerequisite: C-3. Exercises for developing the effectiveness of the body and voice; oral reading of short stories and narrative poetry.

SCH 308—INTERPRETATION OF LITERATURE. 3 credits
Offered 2. Prerequisite: SCH 307. Advanced oral interpretation of lyric poetry, dialect readings, novels, plays; arrangement and presentation of public programs.

SCH 309—STAGING AND LIGHTING. 3 credits
Offered 1. Prerequisite: SCH 210 or consent of instructor. The designing, construction, assembling and painting of scenry; lighting plans, instruments, controls, colors; special effects.

SCH 310—DIRECTING. 3 credits
Offered 2. Prerequisites: SCH 250 and SCH 309 or consent of instructor. The theories and principles of direction and practical experience in directing plays. The project method is used.

SCH 314—TYPES OF PUBLIC DISCUSSION. 3 credits
Offered 1, 2. Prerequisite: SCH 201. Study and practice in the principles and methods of group discussion. Special attention given to problem-solving and conflict resolution.

SCH 315—BASIC PHONETICS. 3 credits
Offered 1, 2. An elementary phonetic analysis of the distinctive sound units of various types of American English. Constant practice in analysis and recognition.

SCH 317—INTRODUCTION TO SPEECH AND HEARING DISORDER. 3 credits
Offered 1, 2. A beginning course in the recognition of common defects of articulation, nasality. Observation in the clinic.

SCH 320—SPEECH TRAINING IN ELEMENTARY SCHOOLS. 3 credits
Offered 1, 2. Prerequisite: SCH 201 or experience as an elementary teacher. Group procedures for the development of desirable speech habits in the child. Recognition of speech disorders.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

SCH 410—SCIENTIFIC BASES OF SPEECH AND HEARING. 3 credits
Offered 1. Prerequisite: Junior standing. A survey in certain fields of the scientific material which is fundamental to an understanding of the normal speaking an hearing processes and of speech and hearing abnormalities.

SCH 416—ADVANCED PHONETICS. 3 credits
Offered 2. Prerequisite: SCH 315. Further study of American pronunciation, including regional variations in phonemic and allophonic patterns, correlated with the historical background of major American types. Survey of the literature of the field. Analysis of recordings.

SCH 419—INTRODUCTION TO AUDIOLOGY. 3 credits
Offered 1. Prerequisite: SCH 317. An introduction to the field of Audiology; disorders of hearing; relationship of hearing to normal speech development; hearing conservation; practice in pure-tone audiometry.

SHC 420—AURAL REHABILITATION. 3 credits
Offered 2. Prerequisite: SCH 419. Application of the basic principles and procedures for aural rehabilitation of children and adults: Speech reading, Auditory training, Speech training, and Counseling. Clinical observation and supervised practice.

SCH 421—INTRODUCTION TO CLINICAL PROCEDURES AND PRACTICE. 3 credits
Offered 1, 2. Prerequisites: SCH 315 and SCH 317. Fundamental principles in handling the diagnosis and therapy for persons with speech and hearing defects. Participation in clinical work.

SCH 422—ARTICULATION AND VOICE DISORDERS. 3 credits
Offered 1, 2. Prerequisites: SCH 315 and SCH 317. Functional articulation and voice problems common to elementary school children. Communication disorders related to minor paralyses, infantile perseveration, and delayed speech disorders. Supervised clinical practice.

SCH 481 (EDS 481)—Duplicate listing—THE TEACHING OF SPEECH IN SECONDARY SCHOOLS. 3 credits
Offered 1, 3. Prerequisite: 8 hours of Speech. Practical philosophy of Speech Education as it functions at the Secondary School level; methods of training in Speech Arts.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

SCH 501—HISTORY OF THE THEATRE (From its Beginning to 1642). 3 credits
Offered 1. Prerequisite: SCH 309 or SCH 310 or consent of the instructor. Available for graduate major credit. Development of the theatre with emphasis on the physical structure, production problems and theatrical personalities.

SCH 502—HISTORY OF THE THEATRE (From 1642 to the Present). 3 credits
Offered 2. Prerequisite: SCH 309 or SCH 310 or consent of the instructor. Available for graduate major credit. The theatre from the 17th century in Europe and America. The physical structure of dramatic productions and theatrical personalities.

SCH 504—ADVANCED STAGECRAFT AND DESIGN. 3 credits
Offered 1. Prerequisite: SCH 309. Available for graduate major credit. The design and lighting of scenery; an analysis of the styles of design, drawing techniques, with practice in lighting control and operation, laboratory work in scene design.

SCH 518—SPEECH PATHOLOGY. 3 credits
Offered 2. Prerequisites: SCH 315, SCH 317, and SCH 410. Available for graduate major credit. Diagnostic and corrective procedures in disorders of speech; paralyses, stuttering, associated oral anomalies related to communication, pitch and quality problems, delayed speech.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

SCH 520—MEASUREMENT OF HEARING. 3 credits
Offered 2. Available for graduate major credit. Basic and advanced principles and testing procedures used in threshold and above-threshold measurements of hearing in pure-tone and speech audiometry, tests of functional impairment of hearing, P.G.S.R. auduimetry, hearing aid evaluation, tests for children, and other special tests of hearing.

SCH 521—CLINICAL PROCEDURES AND PRACTICE. 3 credits
Offered 1, 2. Prerequisite: SCH 421 or permission of instructor. Available for graduate major credit. Development and use of therapy approaches used in clinical and school programs. Participation in clinical work.

GRADUATE COURSES

SCH 600—INTRODUCTION TO GRADUATE STUDY. 3 credits

SCH 601—PLAYWRITING. 3 credits

SCH 602—PLAYS, PLAYERS, AND PLAYWRIGHTS. 3 credits

SCH 604—PROBLEMS IN DIRECTING. 3 credits

SCH 605—SEMINAR IN AMERICAN ORATORY. 3 credits

SCH 606—SEMINAR IN BRITISH ORATORY. 3 credits

SCH 607—ANCIENT AND MEDIEVAL RHETORIC. 3 credits

SCH 608—ENGLISH AND AMERICAN RHETORIC. 3 credits

SCH 609—CONTEMPORARY RHETORIC. 3 credits

SCH 610—RHETORICAL CRITICISM. 3 credits

SCH 611—SEMINAR IN HEARING. 3 credits

SCH 612—SEMINAR IN STUTTERING. 3 credits

SCH 613—SOUTHERN ORATORY. 3 credits

SCH 615—ADVANCED PHONETICS. 3 credits

SCH 616—SEMINAR IN SPEECH RESEARCH. 3 credits

SCH 617—SEMINAR IN SPEECH PATHOLOGY I. 3 credits

SCH 619—SEMINAR IN SPEECH PATHOLOGY II. 3 credits

SCH 621—CLINICAL PRACTICE. 3 credits

SCH 623—PROBLEMS OF THE DEAF AND HARD-OF-HEARING. 3 credits

SCH 626—THEORIES OF INTERPRETATIVE READING. 3 credits

SCH 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

SCH 799—DOCTORAL DISSERTATION. 1 to 12 credits

Vegetable Crops

INSTRUCTIONAL STAFF 1960-61

Jamison, F. S., Head; Halsey, L. H.; Locascio, S. J.; Lorz, A. P.; Nettles, V. F.; Thompson, B. D.

VC 212—PRINCIPLES OF VEGETABLE PRODUCTION. 3 credits
Offered 2. Principles and practices which serve as basis for further work in vegetable production.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

VC 405—PHYSIOLOGY OF HERBACEOUS CROPS. 3 credits
Offered 1. Prerequisites or corequisites: BTY 211, VC 212. A study of the physiological principles underlying the production of vegetable and flower crops.

VC 421—VEGETABLE INDUSTRY IN THE UNITED STATES. 3 credits
Offered 1. Prerequisite: VC 212. The vegetable industry of the United States is surveyed, with emphasis being placed on the ecological and economic factors involved in successful commercial production. A two-day field trip is required.

VC 422—COMMERCIAL VEGETABLE PRODUCTION. 3 credits
Offered 2. Prerequisite: VC 212. The application of scientific principles of successful production of vegetables, with emphasis on important crops of Florida. A two-day field trip is required.

VC 499—TOPICS IN VEGETABLE CROPS. 1 to 3 credits per semester. Maximum 9 credits
Offered 1, 2, 3. With permission of instructor. Selected topics in one or more fields of vegetable crops to include: ecology, nutrition, varietal development and selection, herbicides and other cultural treatments, physiology, distribution, post-harvest handling and marketing.

COURSE FOR ADVANCED UNDERGRADUATES AND GRADUATES

VC 506—HANDLING TECHNIQUES AND PRACTICES IN MARKETING. 3 credits
Offered 2. Prerequisite: VC 212. Desirable prerequisites: BTY 211, AS 408. An introduction to the methods and techniques in the harvesting, grading, packaging, transporting, and marketing of vegetables. Emphasis will be placed on the biological principles involved and the effects of harvesting and handling practices on quality maintenance control. A two-day field trip is required.

GRADUATE COURSES

VC 603—VEGETABLE CROPS SEMINAR. 1 credit

VC 615—ADVANCED OLERICULTURE. 3 credits

VC 621—TECHNIQUES AND METHODS OF VEGETABLE BREEDING. 2 credits

VC 670—NON-THESIS RESEARCH IN VEGETABLE CROPS. 1 to 3 credits. Maximum 6 credits

VC 699—MASTER'S THESIS. 0 to 6 credits. Maximum 12 credits

VC 799—DOCTORAL DISSERTATION. 1 to 12 credits

Veterinary Science

INSTRUCTIONAL STAFF 1960-61

Pritchard, W. R., Head; Cox, D. D.; Emmel, M. W.; Simpson, C. F.; Swanson, L. E.

VY 301—ANATOMY AND PHYSIOLOGY. 3 credits
Offered 1. The skeleton, articulations, muscles, circulatory, digestive, urinogenital, respiratory and nervous systems, endocrine glands, special senses.
VY 303—INTRODUCTORY ECONOMIC NEMATOLOGY. 3 credits
(Identical with EY 303). Offered 1. Prerequisite: BLY 181. (For description see EY 303).

VY 401—FARM SANITATION AND DISEASE PREVENTION. 3 credits
Offered 1. Practical methods of farm sanitation, and control of principal diseases of farm animals.

VY 402—POULTRY DISEASES. 2 credits
Offered 2. Causes, symptoms, methods of prevention, and treatment of diseases of poultry.

The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

COURSE FOR ADVANCED UNDERGRADUATES AND GRADUATES

VY 545—PROBLEMS IN ANIMAL PARASITOLOGY. 4 to 8 credits
Offered 1, 2, 3. Prerequisites: BLY 181, 308, 309 and BCY 300. Approved for graduate credits.

GRADUATE COURSES

VY 643—PROBLEMS IN VETERINARY PATHOLOGY. 4 to 8 credits

VY 644—PROBLEMS IN VETERINARY HEMATOLOGY. 4 to 8 credits

VY 646—PRINCIPLES OF BIOPHYSICAL SCIENCE IN VETERINARY MEDICAL RESEARCH. 8 credits

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The statement "Offered 1" means offered first semester; 2, second semester; 3, summer session.

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